General SME Risk Inventory and Evaluation

Are you aware of all the risks?

Are you familiar with all the risks? Including for your personnel and equipment? But what if an accident involving a machine suddenly happens? Or an employee swallows a dangerous substance? Or you lose someone because his or her workload is too heavy or too difficult? Production would then come to a stop, or you would have to cope with one person less. Then there are the repairs and sickness expenses to factor in. And consider the risk to your reputation. In short, the risks are substantial.

A risk inventory and evaluation enables you to go through these risks, so that you can tackle them in a targeted manner. You have no doubt heard of a risk inventory and evaluation, which actually comprises two things: a LIST of all the risks in your business, and a PLAN to resolve them. These two things enable you to reduce the risks for your personnel and your business. And thus also the financial risk.

A risk inventory and evaluation is not complicated

It is gratifying that this is not a complicated matter. You just have to get down to work. A risk analysis is important, so important in fact that the authorities have made it mandatory for nearly all enterprises employing people.

You can print out the list of risks, if you do not know the answer to a question straight away, and take a closer look at the situation armed with the list. You can also ask the workers on site what problems they experience. You can then enter the information in the digital risk inventory and evaluation.

You can also distribute this list to employees and invite them to help draw up an inventory of dangers/problems, evaluate the risks and consider what preventive action can be taken. The contribution made by the employees can assist in completing the risk inventory and evaluation.

Introduction

By completing the questionnaire, you have drawn up a risk inventory. Based on this, you draw up an Action Plan. The progress of this Action Plan can be discussed each year, and noted. Matters will have been dealt with, and new questions may be added. When discussing progress, include the possible causes of accidents and the possible causes of absence from work. You may want to give priority to these causes, and they may affect the aspects you will tackle in the coming year. It is useful to combine the drafting of an Action Plan or the discussion of progress with the drafting of the annual budget. By combining matters from the Action Plan with investments, these can often be resolved at no additional expense.

1 Help with in-house emergencies

Every enterprise is obliged to organise the provision of help with in-house emergencies. The following questions examine the requirements laid down for your business.

1.1 In-house emergency officers

1.1.1 There are enough in-house emergency officers.

The number of in-house emergency officers is geared to the potential risks of fire and accident within the business, the nature of the building (for example, whether there is more than one storey) and the number of people present (employees and visitors/clients/patients/guests). A number of risks can occur anywhere: industrial accidents (such as falls, trips, slips, contact with machinery, contact with falling or collapsing objects, running-over by a vehicle, accident on or in a moving vehicle), fires and 'external threats' (such as a gas leak, explosion or fire in neighbouring properties). In-house emergency officers must perform their statutory duties properly. The number of in-house emergency officers present in an enterprise is not laid down in legislation, and so some guidelines on this are provided here:

- the old principle of '1 in-house emergency officer for every 50 workers' (this principle had previously been incorporated in the legislation; this lapsed in 2007!);
- it must always be possible to provide assistance within 3 minutes.

Make sure that there are enough in-house emergency officers in the enterprise if work is performed in shifts or on rosters, and take account of leave and/or non-attendance. In practice, this means that multiple in-house emergency officers have been trained. The individual in-house emergency tasks may be shared between a number of employees. In relation to help with in-house emergencies, you may collaborate with enterprises in the direct vicinity. This may be useful for small enterprises. The collaborative agreements must, however, be laid down in writing.

For more information, consult:

- the SME service desk
- the Arboportaal (= health and safety portal), a website of the Ministry of Social Affairs and Employment

Measure

Make sure that there is always one in-house emergency officer at each establishment. For sites with up to 250 employees, there must be at least one in-house emergency officer for every 50 employees. This means that at each establishment, and also in connection with shift work, several people must be trained to step in to cover for holiday and sickness. Boost enthusiasm for becoming an in-house emergency officer by valuing those performing this task.

1.1.2 In-house emergency officers can perform statutory in-house emergency officer duties.

In-house emergency officers must be able to:

- administer first aid in the event of accidents (first aid);
- fight an incipient fire;
- supervise evacuation of a building;
- alert emergency personnel.

Measure

Make sure that in-house emergency officers can:

- administer first aid in the event of accidents (first aid);

- fight an incipient fire;
- supervise evacuation of a building;
- alert relief workers. In-house emergency officers must be trained and equipped for these tasks.

1.1.3 In-house emergency officers have received adequate training.

The Working Conditions Act does not precisely stipulate what training in-house emergency officers must follow. The employer must nevertheless ensure that the in-house emergency officer tasks can be performed properly. In-house emergency officers must be able to:

- administer first aid in the event of accidents (first aid);
- fight an incipient fire;
- supervise evacuation of a building;
- alert relief workers.

A first aid diploma is not compulsory. It is of course advisable to follow training on this, to be able to carry out the tasks properly. Various first aid training courses are available. The requirements that an in-house emergency officer must meet depend on the risks within the enterprise. Clearly, an office environment faces different risks from a sawmill, and the appropriate in-house emergency officer training must be chosen accordingly.

Small enterprises facing specific risks could make do with basic training. This consists of First Aid, resuscitation + AED (automatic external defibrillator – this is a portable device used to resuscitate someone with circulatory arrest), fire fighting and evacuation.

For other enterprises facing specific risks, there are basic training courses for in-house emergency officers that consist of First Aid, resuscitation + AED (automatic external defibrillator – this is a portable device used to resuscitate someone with circulatory arrest), fire fighting and evacuation.

There are also additional training courses depending on the specific risks within the enterprise, such as in-house emergency training on Respiratory Protection, in-house emergency training on source control, in-house emergency training on First Aid for dangerous substances, in-house emergency training on the Procedure for dangerous substances, Operators of fire call systems, Team leaders for in-house emergency training, Team leaders for in-house emergency training on Management, and Coordinator/Head of in-house emergency personnel.

It is advisable to arrange for in-house emergency officers to undertake refresher courses, drills or other activities for at least eight hours once every two years to keep their knowledge and skills at the required level. For more information on training courses, consult the SME service desk.

Measure

Make sure that in-house emergency officers receive adequate training, in which they learn to carry out the in-house emergency officer tasks properly, namely be able to:

- administer first aid in the event of accidents (first aid);
- fight an incipient fire;
- supervise evacuation of a building;
- alert emergency personnel.

1.2 Organisation of in-house emergency services

1.2.1 The duties of in-house emergency officers are set down in writing.

The duties of in-house emergency officers are described, and it is specified what requirements in-house emergency officers must meet. For more information, consult:

- the SME service desk
- the Arboportaal, a website of the Ministry of Social Affairs and Employment.

Measure

Make sure that the in-house emergency officers' duties are described and that it is specified what requirements they must meet.

1.2.2 An in-house emergency plan has been drawn up.

Draw up an in-house emergency plan and make it available to in-house emergency officers. The in-house emergency plan provides information on, among other things:

- alarm procedures and alarm numbers;
- arrangements in connection with various incidents;
- the allocation of tasks and responsibilities of in-house emergency officers;
- the duty rosters of in-house emergency officers;
- ground plans of the enterprise (indicating: extinguishing agents, escape routes, assembly points and emergency exits);
- reception arrangements for external in-house emergency officers (fire service, police, ambulance);
- any ground plans for the fire service with extra information on important ducts, fire ventilation circuits, master switches, etc.;
- any arrangements concerning contact with family and the press. You can download an example in-house emergency plan from the SME service desk.

Measure

Draw up an in-house emergency plan and make it available to in-house emergency personnel. You can download an example emergency plan from the SME service desk.

1.2.3 In-house emergency planning has suitable equipment and resources.

In addition to extinguishing agents and first-aid equipment, extra equipment may be needed, depending on the situation. An example is a form of identification as an in-house emergency officer: an armband or a small jacket, and alerting and communication equipment. Based on any specific risks, determine what equipment and resources in-house emergency personnel should have. For more information, consult:

- the SME service desk;
- the Arboportaal, a website of the Ministry of Social Affairs and Employment.

Measure

Based on any specific risks, determine what equipment and resources in-house emergency personnel should have. For example, an armband or a small jacket, and alerting and communication equipment.

1.3 Drills

1.3.1 For specific risks (for example working at heights, or in enclosed spaces or with dangerous substances), the in-house emergency officer has followed additional training.

Where there are specific risks within the enterprise, the in-house emergency officer should follow additional training and perform additional drills. Examples of specific risks include working at heights, working in crawl spaces and enclosed spaces, and working with dangerous substances. In that event, the in-house emergency personnel should be prepared for falls from heights and injury in connection with accidents with dangerous substances.

Measure

Where there are specific risks within the enterprise, the in-house emergency officer should follow additional training and perform additional drills. Examples of specific risks include working at heights, working in crawl spaces and enclosed spaces, and working with dangerous substances.

1.3.2 All workers are aware of their tasks and roles during emergencies.

All workers should be familiar with the enterprise’s emergency plan and, in the event of disasters, follow the instructions of in-house emergency personnel. Drills in the implementation of instructions given during emergencies, such as fires, evacuations and accidents, improve performance.

Measure

Give all workers instructions on what to do during emergencies such as fires, evacuations and accidents. Practise this regularly.

2 Organisation of workplaces

This module deals with:

- general aspects of your business premises, such as order and cleanliness, maintenance, monitoring and inspection;
- emergency facilities, such as extinguishing agents, escape routes and emergency exits;
- organisational requirements for work rooms, motion spaces and working at height;
- break spaces and other facilities, such as changing rooms, washrooms and shower areas.

The following questions examine the requirements made of your business premises.

2.1 General aspects of building/workplaces

2.1.1 The interior of the building is cleaned properly.

Ensure that there is a good cleaning plan. Areas in which work is performed regularly must be clean and as free from dust as possible (health risk). Exposure to, say, wood dust or other grinding dust poses a health risk. It is better to suck up substances of this kind with a suitable industrial vacuum cleaner than to blow them away with high pressure.

Measure

Draw up a maintenance plan for the building covering the following matters:

- General large-scale and small-scale maintenance;
- Maintenance of the amenities;
- Cleaning. In principle, you need to draw up a plan of this only once. In the case of rebuilding/new building, reorganisation or other chances, you have only to revise the plan. Include these maintenance items in the annual budget. It is better, for example, to suck up wood dust or other waste with a suitable industrial vacuum cleaner or sweep it up than blow it away with high pressure.

2.1.2 All spaces are poorly organised and cleared up.

Paths for driving and walking on must be free from obstacles. This prevents stumbles (safety risk). The consistent clearing-up of equipment straight after use prevents lengthy searches and provides clarity.

Measure

Conduct a tour of the business each month to check on its order and cleanliness. Note any problems and resolve them together with the staff.

2.1.3 All work on the electrical systems including first connection of machinery and equipment is performed by a competent person.

The assessment of risks associated with the connection of equipment is reserved for people specially trained for this. This entails, for example, the connection of machinery or installations. If the electrical installation is damaged or if, due to changes in the work space or (the installation of) equipment, the connection points are no longer ‘suitable’, a competent person must rectify or modify this as soon as possible. Depending on the ‘strength' of the equipment used, the power taken off is high, thus imposing an extra burden on the electrical installation. The use of extension cords and loose/hanging cables should be prevented. For further information on this, see standards NEN 3140 and NEN 1010.

Measure

Arrange for work on the installation to be performed only by approved installers. Arrange for a trained individual to be present within the enterprise, to take care of day-to-day work and management.

2.1.4 The enterprise's electrical installation is inspected at least once every 5 years.

To detect wear and tear or damage and ensure effective operation of all fuses, it is appropriate for an expert to assess the electrical installation from time to time. To prevent uncertainties following modifications about whether specific parts of the installation are live, it is crucial that all the changes are properly updated on the installation drawings. For further information on this, see standards NEN 3140 and NEN 1010.

Measure

Conclude maintenance contracts for the periodic inspection of all electrical installations and equipment. Make sure that a log book or a file is kept with the installation recording any changes to the installation. Also make sure that all group cabinets contain a summary showing what is connected to which group.

2.1.5 The equipment in the enterprise, such as machinery, is directly connected to an earthed plug contact (no extension cords), with the residual current operated circuit-breaker being tested at least once a quarter.

The use of extension cords may cause extra risks and must therefore be advised against (overload, impaired level of protection). Earthing offers protection provided that this functions properly. Adopt the principle that all equipment should be connected directly to a plug contact and consult the authorised person if there is any desire to depart from this principle. Regularly test any safety facilities, such as residual current operated circuit-breakers, emergency stops, machine fuses, suction devices, etc. For further information on this, see standards NEN 3140 and NEN 1010.

Measure 1

Regularly test any safety facilities such as residual current operated circuit-breakers, emergency stops, machine fuses, suction devices, etc.

Measure 2

Arrange for installer to lay extra fixed wiring to connect machines.

2.1.6 Employees working with electrical installations have been assigned in writing.

Most accidents due to electricity are attributable to unsafe working. Employees working on electrical installations must be sufficiently expert and authorised by their employer. NEN-EN 50110 and NEN 3140 set out the following powers:

- the installation manager is responsible for the installation (installation risk);
- the work manager is responsible for work on the installation (work risk);
- skilled person: electrically skilled person;
- adequately briefed person: instructed layman with executive power (VOP) Responsibilities and powers

Standard NEN-EN 50110/NEN3140, which is aimed at low-voltage installations, contains provisions relating to training, experience, responsibilities and powers. Requirements in respect of training and experience are laid down for:

- the installation manager (responsible for the operational management of an electrical installation);
- the work manager (responsible for directing work on an electrical installation);
- the team leader (skilled person entrusted on the spot with directing work);
- the skilled person (able through sufficient training and experience to prevent dangers due to electricity);
- the adequately briefed person (able through instruction to prevent dangers due to electricity).

The employer must appoint the said individuals in writing for these functions. The responsibilities and powers are geared in particular to the following matters:

- performance and coordination of work and the adoption of precautions;
- responsibility for the safety of one's own staff and for third parties;
- supervision of compliance with the safety rules. Hired workers who perform electrical work or enter electrical areas must also be appointed in writing by the employer hiring the personnel.

Measure 1

Set down in writing tasks, responsibilities and powers associated with electrical work.

Measure 2

Appoint the employees in question in writing. Announce in writing the tasks, responsibilities and powers associated with electrical work.

2.1.7 There are competent employees with sufficient expertise for working on high-voltage installations.

Extra expertise requirements are laid down for working on high-voltage installations (>= 1000 V AC voltage or 1500 V DC voltage). For further information on this, see standard NEN 3140.

Measure 1

Appoint workers allowed to work on high-voltage installations.

Measure 2

Make sure that the competent employees are trained for this.

2.1.8 Passenger lifts are periodically inspected by an approved inspection body.

The following inspections must be performed on a passenger lift:

- a pre-commissioning inspection (with certificate of approval);
- an inspection after 12 months;
- then an inspection at 18-month intervals.

Inspections are performed by an inspection body that has been approved (by the Ministry of Social Affairs and Employment).

Measure

Make sure that passenger lifts are periodically inspected in accordance with the schedule in the explanatory notes.

2.2 Provisions for emergencies

2.2.1 There are adequate emergency exits.

All work spaces must be capable of being exited rapidly via multiple (emergency) exits in an emergency. To this end, these spaces must be provided with at least two exits located as far apart as possible. In a space, the distance that must be covered in order to reach an exit must not exceed 30 metres. The exits should lead to two different paths, via which the ground level outside the building can be reached.

Measure

Provide adequate emergency exits. Where appropriate, contact a health and safety expert or seek advice from the fire service.

2.2.2 Emergency exits are clearly indicated and are accessible.

It must be possible to open the emergency exit immediately without having to move anything or find a key. Escape routes that do not serve as normal exits must be marked on the inside using the well-known green signs with arrows/pictograms. Escape routes must be lit at all times. In the event of a power failure, an emergency lighting system should ensure that escape routes are visible.

Measure 1

Make sure that an emergency exit has emergency lighting.

Measure 2

Indicate escape routes clearly with the prescribed green signs/pictograms.

Measure 3

Make sure that emergency exits can always be opened from the inside.

2.2.3 A ground plan indicates where one is and which escape routes can be used.

A ground plan is suspended in a clearly visible manner in various places from which workers can see where they are and where, in an emergency, the emergency exits are located. The ground plan indicates a route to the exit.

Measure

Produce a ground plan of the building and indicate on it what the escape routes are and where fire-extinguishing systems are located.

2.2.4 All employers are familiar with the escape routes and emergency exits.

This applies both to the fixed working location and to the location at which work is performed at that time. Enabling employees to rescue themselves makes it possible to reduce the consequences of emergencies.

Measure

Discuss escape routes and procedures for emergencies such as fire, for example during the work consultation. Where desired, perform evacuation drills. This is compulsory where there are more than 15 employees.

2.2.5 The enterprise holds a usage permit from the municipality.

The danger of fire is often underestimated, and it is important to reduce this danger as far as possible. This is a task for us all. The government is making great strides on this by, for example, requiring a usage permit for some buildings. If more than 50 people work on site or dangerous materials are stored there, there should be a usage permit. You request this from the

municipality. The municipality lays down the provisions of the permit on the fire service's advice. These provisions deal with limiting the risk of fire, limiting the consequences of fire and escape from a building in the case of fire.

Measure

Request a usage permit from the municipality.

2.2.6 The required fire extinguishing systems are present in all spaces, recognisable and accessible.

At least one portable fire extinguisher per 200 m² surface area must be present in a building, with a minimum number of two per floor (ground floor/intermediate floor).

In the case of storeys with a floor area of less than 200 m², a single fire extinguisher per storey is sufficient.

The same applies to free-standing buildings with a floor area of less than 50 m² if exclusively used as offices, canteens and the like.

A fire extinguisher must be on hand when performing welding.

There are a number of extinguishing systems that have no effect on certain types of fire or which are even counterproductive. For example, water or foam must not be used for extinguishing electrical fires. Seek advice from the fire service or the extinguishing system supplier on which extinguishing systems would be best to purchase.

Measure

Seek advice from the fire service or the extinguishing system supplier on which extinguishing systems would be best to purchase. You can find more information on fire extinguishers in the workplace on www.brandweer.nl. Check periodically whether all extinguishing systems are still in the right place and whether they are accessible and free from obstacles. The fire extinguisher must be in a conspicuous position and be accessible for use. Do not suspend the device too high, to prevent failure to spot it. Therefore ensure that no equipment, racks or products are put in front of the fire extinguisher.

2.2.7 All fire extinguishing systems are inspected annually.

You must arrange for a REOB-approved enterprise to inspect small fire extinguishing systems, such as fire extinguishers and fire hose reels, at least once a year. You must also arrange for a fire hose reel to be checked more extensively once every five years.

Each fire extinguishing system must have an inspection certificate stating:

- who has performed the inspection;
- when the inspection was performed;
- when the next inspection is to take place.

Measure

Check at business level whether the fire extinguishing systems are inspected annually. If not, ensure that a contract with a REOB-approved supplier of fire extinguishing systems is concluded for the maintenance of fire extinguishing systems.

2.3 Organisational requirements for workplaces

2.3.1 Employees have a smoke-free (tobacco-free) workplace.

Smoking at work is prohibited. To meet the needs of smokers, the enterprise can set up a separate area in which smokers can smoke. This area must be capable of being closed off (door shut) and have good air extraction/ventilation.

Measure

Announce that smoking at work is prohibited. The business may make available a separate smoking area. Special facilities are also available on the market for this (“bus stops”). Stivoro indicates on its website how enterprises can introduce a smoking policy successfully with a ‘7-step policy’. You can also download and order a lot of information material here.

2.3.2 You have clearly indicated where fire prohibitions apply.

Smoking and fires are particularly dangerous in a number of places, e.g. in paint stores and in the presence of wood products and wood dust.

Measure

Make sure that you have clearly indicated these prohibitions with pictograms. Also put up prohibition signs for customers entering the workplace.

2.3.3 Transport routes for fork-lift trucks are insufficiently wide.

Fork-lift trucks must have space to be able to operate and turn. In the case of one-way traffic, transport routes are at least 60 cm wider than the widest laden conveyance. In two-way traffic: 90 cm wider than twice the widest laden conveyance.

Measure

Make sure that transport routes are wide enough. In one-way traffic, transport routes are at least 60 cm wider than the widest laden conveyance. In two-way traffic: 90 cm wider than twice the widest laden conveyance.

2.3.4 Clear passageways and cycle paths are indicated.

If there is a risk of collision from powered vehicles such as fork-lift trucks, you should indicate in the enterprise where these may and may not be used. In cases where vehicles and personnel on foot are regularly present in a single area such as the store, you should separate footpaths and cycle paths.

Measure

A width of 80-100 cm is ensured for footpaths. The width for primary passageways intended for vehicles is 1.1 m. You can, for example, apply markings for this to the floor. You should also indicate by means of information how employees should deal with this. Special passageways, pedestrian passing points, mirrors for unclear situations, and doors with transparent surfaces within them are ways of improving traffic safety. More information can be found in ArboInformatie guide No 14 Business areas – Organisation, Transport and Storage (available for a charge from www.sdu.nl). ArboInformatie guides set out solutions and ways of complying with the Working Conditions Act.

2.3.5 The floors are uneven, clean and level.

Floors must be clean, tidy and not smooth in order to prevent stumbles and falls. Wet floors are not only slippery, but may also lead to wet and/or cold feet. In places where work with water takes place and on external sites (rainwater), adequate drainage must therefore be present.

Measure

Ensure that floors are tidy so that no-one can stumble on them. Clean the floors regularly to eliminate any slipperiness caused by wood dust. Ensure effective drainage in wet places, such as on the external site.

2.3.6 Entrance doors are safe or easy to operate and do not meet all requirements.

Particularly with entrance doors of the lever type, up-and-over doors, sliding doors and/or overhead doors, physical strength is a factor. Doors must be easy to open.

The following requirements apply to all types of doors:

- The construction must be sound, including the suspension, the safety catch device and the attachment to the building;
- The entire assembly must be made from sound materials;
- Components which may cause a danger if they become detached must be effectively secured;
- Places where a danger of pinching may arise (toothed wheels, cable pulleys) must be screened up to a height of 2.40 m;
- Where draw springs are used, steps must be taken to prevent the detachment of parts of the spring in the event of fracture, and the danger of pinching during release of the spring;
- Depending on the weight, doors and gates with a vertical closure movement (mass more than 20 kg) or with a combined closure movement (mass more than 50 kg) must be fitted with a safety catch device.

Measure 1

Places where a danger of pinching may arise (toothed wheels, cable pulleys) must be screened up to a height of 2.40 m. Where draw springs are used, steps must be taken to prevent the detachment of parts of the spring in the event of fracture, and the danger of pinching during release of the spring. Depending on the weight, doors and gates with a vertical closure movement (mass more than 20 kg) or with a combined closure movement (mass more than 50 kg) must be fitted with a safety catch device.

Measure 2

The construction must be sound, including the suspension, the safety catch device and the attachment to the building. The entire assembly must be made from sound materials. Components which may cause a danger if they become detached must be effectively secured.

Measure 3

Ensure that all doors (lever type, up-and-over doors, sliding doors and/or overhead doors) are easy and safe to operate.

2.3.7 Entrance doors are periodically maintained and inspected (annually).

You must ensure that the said doors constantly function safely.

Measure

Conclude a maintenance contract and arrange for the doors to be checked and maintained periodically (annually).

2.3.8 The use of ladders as a permanent work station is limited under the rules.

The European Commission has drawn up a Directive limiting the use of ladders as a work station. This Directive has in the meantime been incorporated in the Working Conditions Decree. Under the Working Conditions Decree, the ladder may be used if the use of other, safer work equipment is not reasonably possible in connection with the limited risk, and owing to the short usage time or the existing characteristics of the locations that the employer cannot change. The steps and measures to prevent the risk of falls from a ladder consist of at least the following:

- Completion of the guidelines for ladders (Scheme 1 assessment of selection of work equipment and Scheme 2 Assessment of ladder work station), or complete the online selector Safe working at heights.
- Prevent slippage or falls by using rough foot wideners, securing the ladder and using hooks on the top of the bars.
- Good maintenance and annual inspection by an expert.
- Marking of the work environment on the work floor.
- Putting up the ladder at an angle of 75°.
- Ensuring that the ladder projects by 1 metre above the support point.

For decision-making diagrams, see www.arbouw.nl Working at height – rules for working on a ladder.

Measure 1

Where ladders and steps are used, the following measures should be taken under all circumstances:

- Prevent slippage or falls by using rough foot wideners, securing the ladder and using hooks or ladder securing devices on the top of the bars.
- Good maintenance and an annual inspection by an expert.
- Marking of the work environment on the exhibition floor.
- Putting up the ladder at an angle of 75°.
- Ensuring that the ladder projects by 1 metre above the support point.

Measure 2

First complete the guidelines for ladders [click on pdf scheme 1 Assessment of selection of work equipment] and [click on pdf scheme 2 Assessment of ladder work station] or complete the online selector Safe working at heights.[www.werkveiligophoogte.nl]

2.3.9 Ladders, stepladders and mobile steps are in good condition.

Ladders are used very exceptionally. A ladder may still be used on small jobs or where a safer alternative, such as fixed steps, scaffolding or a truck with a mechanically elevating platform, is not possible. All ladders or steps must conform to the Commodities Act (Portable Climbing Equipment Decree).

- Ladder(s), including ladder shoes, must be in good condition;
- A wooden ladder may not be painted and must be free from oil or grease. The ladder must be positioned at an angle of 70° to 75° and project at least 1 metre above the place where it provides access;
- Stepladders more than 1 metre in height must be fitted with a handle or support projecting at least 60 cm above the highest step.

Measure

Check ladders and steps regularly (annually) for soundness and safety. Record the checks.

2.3.10 (Moveable tower) scaffolding is erected and used safely.

Scaffolding is often necessary when performing work at height. The proper construction, maintenance and disassembly of scaffolding structures is extremely important. These activities should therefore be performed by expert employees. Only they can perform this work safely. Scaffolding is a form of collective fall protection and provides a safe work point provided that it is used properly. However, accidents occur regularly when erecting, using and dismantling

scaffolding. People falling from a height and the collapse or tipping of the moveable tower scaffolding are major causes of accidents.

The requirements imposed on the various components, such as wheels, stability-increasing elements, vertical frames, strut connectors, any beams, work floors, false ceilings/floors and floor hatches, are described at length in AI guide No 21. The steps and measures to prevent the danger of people or products falling from scaffolding consist at least of the following:

- Mobile scaffolding is not moved with people and materials on it;
- Good stability ensured by struts, stabilisers, anchoring and securing;
- Closely laid work floors, and the scaffolding is entered on the inside;
- Railings and fencing fitted at least 1 metre above the working space;
- Good maintenance and annual inspection by expert;
- Ladders not climbed on the work floor of mobile scaffolding;
- Scaffolding must not be able to slip away or move suddenly;
- Mobile scaffolding must be constructed and used in accordance with the instructions for use.

More information is set out in ArboInformatie guide No 21 Moveable tower scaffolding (available for a charge from www.sdu.nl). ArboInformatie guides set out solutions and ways of complying with the Working Conditions Act.

Measure

Take the following steps and measures to prevent the danger of people or products falling from scaffolding:

- Mobile scaffolding is not moved with people and materials on it.
- Good stability ensured by struts, stabilisers, anchoring and securing.
- Closely laid work floors, and the scaffolding is entered on the inside.
- Railings and fencing fitted at least 1 metre above the working space.
- Good maintenance and annual inspection by expert.
- Ladders not climbed on the work floor of mobile scaffolding.
- Scaffolding must not be able to slip away or move suddenly.
- Mobile scaffolding must be constructed and used in accordance with the instructions for use.

2.3.11 Work is performed safely with trucks with mechanically elevating platforms.

A truck with a mechanically elevating platform is a mobile hoisting unit designed to lift people and, where appropriate, goods. Work can be performed with trucks with mechanically elevating platforms in locations that are difficult to reach. A truck with a mechanically elevating platform is not a hoist and may therefore not be used as such. Only hand tools and/or required (small) materials that do not project beyond the work bin may be carried with it.

The steps and measures to prevent the danger of falls from a truck with a mechanically elevating platform consist of at least the following:

- Access in the bin is protected against opening at height. It is not allowed to affix aids for this, such as cable ties (tie-wraps) to get in and out more quickly.
- Ride carefully! Any bumps lead to a lurch in the bin.

- An emergency fall system is present which, in an emergency, can lower the bin in a stable manner. This indicates directly that a second person (with relevant knowledge) must be present on the truck with the mechanically elevating platform.
- The protection against falls is mandatory and consists of a short line with a harness which means that the person can never fall from the railing. The use of fall protection with shock absorbers is not allowed. In the case of a fall from the bin, the attachment point in the bin is not strong enough (according to prEN280) and the stability of the bin during falls may be jeopardised.
- The bin must not be loaded more severely than indicated. Loading the truck with a mechanically elevating platform more severely at height (e.g. during demolition work) is not allowed.
- Getting in and out other than in the lowest position is prohibited.

Hoisting from the bin, or from construction parts of the truck with a mechanically elevating platform, is not allowed unless this is envisaged by the manufacturer. The instructions for use should provide scope for this.

Measure 1

Ensure that the operators of the trucks with mechanically elevating platforms receive proper instruction (verbally and in writing) on the operation of the equipment. Operators must be at least 18 years old.

Measure 2

Getting in and out other than in the lowest position is prohibited.

Measure 3

The bin must not be loaded more severely than indicated. Loading the truck with a mechanically elevating platform more severely at height (e.g. during demolition work) is not allowed.

Measure 4

Protection against falls is mandatory and consists of a short line with a harness which means that the person can never fall from the railing. The use of fall protection with shock absorbers is not allowed. In the case of a fall from the bin, the attachment point in the bin is not strong enough (according to prEN280) and the stability of the bin during falls may be jeopardised.

Measure 5

An emergency fall system is present which, in an emergency, can lower the bin in a stable manner. This indicates directly that a second person (with relevant knowledge) must be present on the truck with the mechanically elevating platform.

Measure 6

Ride carefully! Any bumps lead to a lurch in the bin.

Measure 7

Access in the bin is protected against opening at height. It is not allowed to affix aids for this, such as cable ties (tie-wraps) to get in and out more quickly.

2.3.12 An appraisal has been conducted with the Fall Protection Selector or no use is made of personal fall protection equipment.

The employer must take measures to prevent the danger of falls when working at a height of 2.5 metres or more, or lower in the case of obstacles/projecting parts (e.g. in the case of trestle scaffolds) under live wiring, in water and in the case of (fork-lift truck) traffic riding past. The danger of falls must be prevented by working from a safe scaffold, trestle scaffold, platform or work floor, or in the case of other work stations, by effective railings or fencing. However, in some

cases safety nets or harnesses with lines, or equipment offering at least the same level of protection, may suffice. This is only allowed if it can be demonstrated that:

- it is not possible to adopt the above-mentioned measures, or
- the adoption and elimination of these measures entail greater dangers than the activities to be performed themselves.

Where other protective measures are inadequate, we use personal protective equipment. Fall protection must absorb the consequences of a fall on the human body. For example, a close-fitting harness in combination with safety hooks and a fall line, with a braking device to absorb kinetic energy attached. This becomes strained automatically during a fall when working along an outer wall or when walking on a roof. There is a choice from various braking devices to absorb kinetic energy, such as the integrated fall damper, the automatic braking device to absorb kinetic energy and the blocmax with a fall absorber. With a positioning line, one can position oneself at the work station, but this is unsuitable as fall protection.

Only well maintained fall protectors that are not worn out meet the requirements laid down and are reliable. The safe operation of these fall protectors depends on the use, age and specifications of the product. Rusting of a rumbling hook reduces the resistance of the hook somewhat during falls. A braking device to absorb kinetic energy must be suspended at the correct height above the user's head. See also the Fall Protection Selector.

Measure

Use the Fall Protection Selector to determine whether proper personal fall protection equipment should be used for working. This entails work above 2.50 metres, where there is a danger of falls and where no other effective fall protection may be applied. Safety belts are used in combination with a catching system.

2.4 Break rooms and other facilities

2.4.1 The relaxation area (canteen or other catering area) is separate from the workplace.

Each business must have a relaxation area where workers can spend their breaks. This area is to be clean and large enough, heated, ventilated, lit and equipped with tables and chairs. The dimensions of this area depend on the number of workers. The area has a view of the outside. Eating and drinking in workplaces leads to greater exposure to dangerous materials and impaired hygiene.

Measure

Provide a relaxation area (canteen or catering area) where workers can spend their breaks. This area is clean and large enough, heated, ventilated, lit and equipped with tables and chairs. The dimensions of this area depend on the number of workers. The area has a view of the outside.

2.4.2 Toilets, urinals and washbasins are available in adequate numbers.

- Up to ten workers may make do with one toilet (for men and women).
- If you have more than 10 workers, separate toilets must be provided for men and women.
- Ensure that there is at least one toilet for every 15 workers of the same sex. The men's toilet may also consist partly of urinals so long as there is one toilet for every 25 men or fewer.

Adequate washbasins with running water must always be provided in the vicinity of toilets. The same rules as for normal toilets apply at locations with mobile toilets.

Measure

- Provide adequate water and sanitary installations.

- Up to ten workers may make do with one toilet (for men and women)
- If you have more than 10 workers, separate toilets must be provided for men and women.
- Ensure that there is at least one toilet for every 15 workers of the same sex. The men's toilet may also consist partly of urinals so long as there is one toilet for every 25 men or fewer.

2.4.3 Separate washing facilities are available for men and women if they are exposed to dirt and dust.

If workers are exposed to dirt, moisture or dust, adequate washbasins must be provided. If cleaning encompasses more than the hands and face, a shower area with a sufficient number of showers is compulsory. For both washbasins and showers, these must be spacious enough and appropriately designed, and must have hot and cold running water. The areas must be separate for men and women. This requirement is also met if men and women can use washrooms and shower rooms separately or in turns.

Measure

Provide separate washrooms and shower facilities for men and women. If cleaning encompasses more than the hands and face, a shower room with a sufficient number of showers is compulsory. For both washbasins and showers, these must be spacious enough and appropriately designed, and must have hot and cold running water. The areas must be separate for men and women. This requirement is also met if men and women can use washrooms and shower rooms separately or in turns.

2.4.4 Toilets, urinals, washbasins and changing rooms are cleaned daily.

In the interests of good hygiene, water and sanitary installations should be kept clean and, where necessary, cleaned every day.

Measure

Provide a good cleaning programme for water and sanitary installations.

2.4.5 There are properly ventilated and separate lockers for personal and industrial clothing.

Where industrial clothing is used to protect against moisture, dust and dirt, workers must have a changing room and a dedicated closable clothes locker.

Measure

Ensure that workers have a changing room and a separate closable clothes locker.

2.5 Working in warehouses

If your business has a warehouse or store where workers work and/or where (warehouse) scaffolding is erected, risks may exist in relation to stable scaffolding and its safe loading.

These questions do not apply to a small administrative archive.

Workers work in a warehouse or storage facility.

2.5.1 Scaffolding is positioned in a stable manner, falls and collapses are not possible.

The main dangers in storage areas and warehouses are:

- Falling objects as a result of incorrect storage;
- Lumber and rubbish, leading to cluttered situations;

- A danger of collision with pumping wagons, fork-lift trucks driving around or other equipment.

Warehouses must therefore be organised appropriately.

More information can be found in ArboInformatie guide No 14 Business areas – Organisation, Transport and Storage (available for a charge from www.sdu.nl). ArboInformatie guides set out solutions and ways of complying with the Working Conditions Act.

Measure

Ensure that scaffolding is, where necessary (in principle required for scaffolding more than 2 metres high with a height/depth ratio of more than 4:1 and always in the case of drive-in scaffolding), anchored to the floor, wall or ceiling. The uprights of warehouse scaffolding must be protected against collision up to a height of 40 cm.

2.5.2 Scaffolding is properly loaded.

The supplier of the scaffolding may provide information on the maximum loading of the racks and on any additional instructions.

Measure

Ensure that you know how heavily you may load the scaffolding. Contact the scaffolding supplier on this.

2.5.3 The inspection and maintenance requirements for racks are observed or followed.

Where scaffolding or mezzanine floors are incorrectly assembled or are not in a good state of repair, e.g. due to rusting or bent uprights, or collision damage, there is a chance of accidents, physical injury and material damage due to falls of scaffolding or being hit by falling objects from the scaffolding. Inspection and maintenance requirements therefore apply to racks and mezzanine floors.

A **commissioning inspection** is mandatory for:

- racks resting on the floor and building;
- racks more than 8.5 metres high;
- racks fitted with an intermediate floor or a gangway and more than 3 metres high;
- ‘scaffolding configuration’ (this is usually laid down in the user manual that the supplier provides);
- all mezzanine floors.

Periodic inspections

- A periodic inspection is laid down by law in accordance with Article 7.4a of the Working Conditions Decree. The inspection should be performed by an expert person or institution. The Association of Scaffolding Suppliers (VSL) and the BMWT Association (trade association of importers or manufacturers of Construction Machinery, Warehouse Facilities, Road-building Machinery and Transport Equipment) have structured their inspection regime. The GSF inspection and the BMWT inspection provide security concerning the expertise of the inspection.
- The frequency of this inspection can best be determined in consultation with the inspection body. Once a year is usually a safe lower limit.

Periodic inspections

There are two kinds of inspection levels:

1. Daily observations by fork-lift truck drivers and order collectors. Damage to scaffolding equipment that they have caused themselves through an operating error or caused by

third parties must be reported directly. It is appropriate to lay down a notification procedure here setting out when notification must be carried out, and to whom. This procedure must help ensure that the necessary measures can be taken directly and that the risk of working with locally unsafe scaffolding will be as small as possible.

2. Weekly to monthly inspections by an expert. The frequency of these inspections depends on the regularity and extent to which repairs and/or remedial action must be taken. The inspection lists from NPR 5055 may be used for these periodic inspections. Checklists from your own inspection body may also be used.

Measure

Ensure that periodic inspections are organised and the notification procedure for improvement measures has been arranged. Arrange the inspection and the frequency of inspection with an inspection body. A commissioning inspection is required when taking new scaffolding into service.

2.5.4 Loading of the (false) floors remains within the set maximum loading.

For false floors in particular, you must take account of the maximum loading of the floors. You can ask the installer or the designer about the maximum loading.

Measure

Ensure that you know the maximum loading of the floors and that the floors are not overloaded.

2.5.5 Working and false floors (mezzanine floors) are fitted with a solid railing.

Working and false floors (mezzanine floors) posing a danger of falls of 2.5 metres or more must be fitted with at least one railing at a height of 1 metre and one railing at a height of 50 cm. Floor openings must be covered or screened with an approach parapet fitted with barge boards to prevent falls.

Measure

Ensure that working and false floors (mezzanine floors) posing a danger of falls of 2.5 metres or more are fitted with a railing. Floor openings are covered or screened with an approach parapet fitted with barge boards to prevent falls.

2.5.6 Working and false floors (mezzanine floors) are fitted with a ‘feed opening’ that is easy to close.

A feed opening in a false floor (mezzanine floor) poses the risk of falls by people or goods. The feed opening may only be open when goods are unloaded on the false floor (mezzanine floor). At all other times, the opening must be closed with an effective device, such as a closable swing barrier or slide barrier.

Measure

Ensure that the entrance to the mezzanine floor is only open when actually used to store things. The opening must be closed with an effective device, such as a closable swing barrier or slide barrier.

3 Physical stress and VDU work

This module deals with the following:

- exertion of strength, such as lifting, pushing, pulling, holding, supporting and carrying;
- posture during work, such as adverse body positions, standing and sitting;
- repetitive movements;
- vibration, both hand-arm vibration and body vibration;
- VDU work and seated office work;
- counter work.

The following questions deal with the requirements for your business. The health and safety catalogue referred to is the general health and safety catalogue of MKB NL and AWVN.

3.1 Lifting and carrying

3.1.1 Workers lift or carry loads lighter than 23 kg (23 kg is the maximum under ideal lifting conditions)

Lifting loads of more than 23 kg, continuously working with one's body bent or twisted round, continuously working in one position, working beyond one's powers, and stretching a long way are all undesirable because they place an excessive burden on the body. Examples of heavy loads in various industries include the following: placing beams in a saw and stacking cases and boxes of finished product. In particular, operators and production personnel and warehouse workers are heavily involved in this. Lifting and carrying heavy loads regularly leads to overloading of back muscles and intervertebral joints. Physical stress as a result of lifting or carrying therefore calls for an active approach.

In an ideal situation, the maximum weight to be lifted for 1 person is 23 kg.

If you must lift weights above, say, 1.80 metres, 4 kg is the limit. However, there is virtually never an ideal lifting situation. The load must then in particular be:

- lifted properly for the body;
- at table height;
- lifted virtually against the body;
- easy to hold.

Because this is virtually never the case, the maximum lifting weight will already have been achieved much earlier in most situations. At least, because the number of times that loads must be carried or lifted affects this. Having to lift or carry a weight of more than 10 kg twenty times a day (formwork components or rough beams, for example) may also lead to overloading.

Employing lifting aids in order, say, to be able to put down beams conveniently, lifting or carrying heavy loads together, and using effective protective equipment can soon make a big difference to day-to-day loads.

For solutions and aids, see also the health and safety catalogue.

Measure 1

Where necessary, involve an expert in seeking solutions and issuing instructions on posture while working.

Measure 2

Instruct workers on how to prevent stress. Repeat this instruction regularly.

Measure 3

Provide lifting aids to take the burden off employees – for solutions and aid, see the health and safety catalogue (http://www.dearbocatalogus.nl/node/331).

Measure 4

Involve workers in seeking solutions.

Measure 5

Draw up a summary of work requiring regular lifting and carrying and investigate scope for preventing this.

3.1.2 Goods weighing more than 4 kg are lifted to a height of no more than 1.80 m.

Goods weighing more than 4 kg may be manually positioned at a maximum height of 1.80 m. Heavier goods must be positioned lower than this or must be positioned with lifting aids (e.g. a stacker).

For solutions and aids, see also the health and safety catalogue.

Measure 1

Ensure that there are adequate lifting aids. For solutions and aids, see the health and safety catalogue (http://www.dearbocatalogus.nl/node/331).

Measure 2

Where possible, place heavy goods at a height of less than 1.80 m in the scaffolding.

Measure 3

Brief employees on proper lifting techniques.

3.2 Pushing and pulling

3.2.1 Pushing and pulling with heavy loads is prevented.

Pushing and pulling of products and components occurs frequently in many sectors, such as the moving of roll containers or wagons. This may lead to neck, back and shoulder complaints.

For solutions and aid, see the health and safety catalogue.

Measure 1

Involve an expert in seeking solutions and providing instructions. The Arboportaal, a website of the Ministry of Social Affairs and Employment, provides a lot of useful information on pushing and pulling, www.arboportaal.nl.

Measure 2

Instruct employees on safer techniques for pushing and pulling and preventing strains: pushing is better than pulling, always use both arms and put the load slowly in motion. Repeat this instruction regularly.

Measure 3

Provide aids for preventing physical strain, e.g. (electric pallet wagons and hand pallet trucks with electric motors, electric movers); where possible, try to use larger wheels and ball bearings, which differ in terms of tensile force and thrust. For solutions and aids, see also the health and safety catalogue (http://www.dearbocatalogus.nl/node/331).

Measure 4

Involve workers in seeking solutions.

Measure 5

Draw up a summary of tasks frequently entailing pushing and pulling and investigate scope for preventing this.

3.3 Unfavourable postures

3.3.1 Working in an unfavourable posture is prevented.

This risk is in the high category.

Strength may also be exerted where postures for working are unfavourable. This may overload muscles, joints and tendons, and complaints such as tendinitis and joint conditions may arise. Examples of unfavourable postures are:

- working with one's back twisted or bent;
- working above shoulder height;
- working in a keeling position;
- working in a crouched position;
- standing on one leg;
- standing for more than one hour without a break. This is done when working on various automatic pallet machines.

Examples of solutions that can help include the following: planning work differently (as far as possible, perform work with a 'normal' posture), purchase aids (for example, to stand slightly higher up and thereby improve one's reach, or to sit or keel comfortably), lighter tools and good protection equipment (to reduce discomfort while working). Instructing employees is also important.

For solutions and aids, see also the health and safety catalogue.

Measure 1

Where appropriate, involve an expert in seeking solutions and issuing instructions on postures when working.

Measure 2

Instruct workers on techniques for preventing strain. Repeat this instruction regularly.

Measure 3

Provide aids for relieving the strain on workers; for solutions and aids, see also the health and safety catalogue (http://www.dearbocatalogus.nl/node/331).

Measure 4

Involve workers in seeking solutions.

Measure 5

Draw up a summary of activities requiring regular work in unfavourable postures and investigate scope for preventing this.

3.4 Protracted standing

3.4.1 All workers can regularly alternate between working in a standing, sitting or walking position.

Protracted standing may lead to problems with the legs and circulation. Standing supports may help prevent problems, as may scope for changing posture and alternating between activities or taking regular breaks. For solutions and aids, see also the health and safety catalogue.

Measure 1

Ensure that workers can regularly interrupt or alternate between their activities.

Measure 2

Provide standing aid, paying attention to the working height; for solutions and aids, see also the health and safety catalogue (http://www.dearbocatalogus.nl/node/331)

Measure 3

Investigate which activities involve protracted standing and what solutions there are to prevent this.

3.5 Vibration

3.5.1 Work involving the use of equipment that causes vibration is prevented.

Many kinds of powered tools, such as drills, but also pneumatic hammers and seat nailing machines, generate vibration or shock. Where vibration or shock arises over an extended period, disorders may arise in blood vessels and the nerves of arms and fingers. This may manifest itself in tingling in the fingers, and in the long run in numbness and loss of strength.

It is important to investigate how the vibration may be attenuated: preferably on the tools themselves (e.g. a handle with a damping effect), otherwise by means of personal protective equipment (e.g. close-fitting damping gloves).

Bodily vibration may also arise when driving, e.g. a fork-lift truck, when riding on an uneven road surface. Excessive bodily vibration may cause back complaints, but may also influence cardiac rhythm, leading to high blood pressure and gastric complaints.

On poorly sprung vehicles and when riding on a road surface that is not level, the scale of bodily vibration is greater. Where there are any doubts, arrange for an expert to assess exposure.

Measure 1

Ensure that workers experiencing protracted exposure to hand/arm vibration regularly have time to recover or can alternate their activities with other activities.

Measure 2

Provide effective protective equipment for workers to attenuate vibration.

Measure 3

When purchasing new tools, ensure the lowest possible vibration levels (both the level of vibration and the attenuation measures).

Measure 4

Check what measures have been taken to reduce this.

Measure 5

Draw up an inventory of what equipment within the enterprise causes hand/arm vibration.

3.6 VDU work for more than 2 hours at a time

Intensive computer work generates unilateral physical stress. This may bring about physical complaints such as tingling, stiffness, pain and the like affecting the wrists, arms, neck and shoulders. Where a computerised work station is used for more than 2 hours a day, this must be included in the Risk Inventory and Evaluation (RI&E).

For solutions, see also the health and safety catalogue.

One or more people perform VDU work for more than two hours a day at a time.

3.6.1 After 2 hours of computer work, breaks of a minimum of 10 minutes cannot be taken, or other, non-VDU-related work cannot be temporarily performed.

Protracted computer work generates protracted unilateral physical stress. This may bring about physical complaints such as tingling, stiffness, pain and the like affecting the wrists, arms, neck and shoulders. Such complaints are called CANS (complaints of the arms, neck and shoulders) or RSI.

See the website www.arboportaal.nl for further information, and the health and safety catalogue for solutions.

Measure

To prevent unilateral physical stress (and thus the risk of RSI/CANS), it is better to switch between different jobs, such as consulting, telephoning or copying. Taking breaks is also a possibility. Software is also available that alerts your workers to the need for taking a break. For further information, see www.arboportaal.nl.

3.6.2 In the case of computer work sessions lasting at least two hours, the workstation (desk, chair, etc.) is adapted to the worker's height.

With protracted computer work, it is important that workers can adopt the appropriate posture. There are guidelines for this. The desk must be large enough, which means at least 120 cm by 60 cm, but preferably deeper. Deeper because a VDU and keyboard generally stand on it. A VDU must also be 60 cm from a worker. Height-adjustable desks are suitable for workers of different heights.

See the website www.arboportaal.nl for further information, and the health and safety catalogue for solutions.

Measure

On the website www.arboportaal.nl, you can download information on healthy VDU work. If someone works in the same position for more than two hours, the following applies:

- The chair and, where appropriate, the work top are adjustable;
- The VDU can be positioned at a distance of 60 cm;
- The VDU must, depending on the size of the characters on the screen, be capable of being set up at a distance of 50 - 70 cm from the user's eyes;
- The user must be able to modify the viewing distance as required;
- During VDU work, the VDU must be set up straight in front of the user to prevent protracted working with the user's head tilted.
- The DVU should be capable of being tilted slightly upwards;
- The keyboard must be separate from the VDU and not be able to move;
- A laptop causes health risks if used as a permanent VDU workstation. This problem may, where appropriate, be resolved with a docking station. This is a system in which you combine your laptop with a fixed monitor and a standard keyboard and mouse;
- Ensure that the worker himself can adjust height-adjustable desks, e.g. by using a small handle.

For solutions, see also the health and safety catalogue
http://www.dearbocatalogus.nl/node/233

3.6.3 No reflection nuisance from VDUs.

Reflection nuisance leads to poor vision of the VDU. This makes VDU work more strenuous and workers tire more quickly. The use of darker characters against a light background reduces the

nuisance reported, although screening off windows and light fittings can also help. Using suitable work lighting, such as indirect lighting or direct lighting with anti-reflection caps and the appropriate provision of daylight, may reduce the reflection nuisance. A combination of solutions is generally sought.

Under the Working Conditions Order (Article 5.2), adjustable luminosity protection (luxaflex) is needed for VDU work, to reduce the intensity of the light falling on the workstation. Luminosity protection is not the same as shading. Luminosity protection is mandatory in any space in which VDU work is performed, including on the north side of a building.

For solutions, see also the health and safety catalogue.

Measure

The use of dark characters against a light background reduces the nuisance reported, although screening off windows and light fittings can also help. Use suitable work lighting, such as indirect lighting or direct lighting with anti-reflection caps. The appropriate provision of incident daylight is regulated by the use of strips, curtains or external shading. Place the VDU at right angles to windows and, where possible, 3 metres from the window. The VDU may also be frosted or non-glare.

3.6.4 Lighting and VDU equipment are well matched.

To be able to see information on screen clearly, lighting, incident daylight and VDU equipment must be closely tailored to one another. The appropriate lighting level is between 200 and 400 lux for the VDU workstation. In the general office area, this level is 200-800 lux.

For solutions, see also the health and safety catalogue.

Measure

Ensure the appropriate lighting level for the VDU workstation. This is between 200 and 400 lux. In the general office area, this level is 200-800 lux.

3.6.5 Everyone knows how to adjust his or her workstation to the correct height.

To allow good posture while working, the chair can at least be adjusted and (where applicable) the working surface and the foot plate are height-adjustable.

For solutions, see also the health and safety catalogue.

Measure

Ensure that workers who perform a lot of office work receive information on the adjustment of their work station. Repeat this periodically.

3.6.6 Measures have been taken to protect the eyesight and vision of VDU workers.

The occupational health officer enables VDU workers to undergo an eye test, to establish whether VDU spectacles are needed. The employer is also obliged to reimburse the cost of the VDU spectacles after the occupational health officer has issued a positive opinion.

For solutions, see the working conditions catalogue.

Measure

Where VDU workers experience eye complaints, information is given on the provision of an eye test via the occupational health officer. If the occupational health officer considers VDU spectacles necessary, these are reimbursed by the employer.

3.6.7 An area of at least 6 m^2 is provided per VDU workstation with a flat screen.

A minimum area applies to an office workstation. The starting point is a basic work station per person. The minimum required area is increased depending on the situation. The basic workstation consists of an office chair, work table, PC/monitor set up, monitor with a flat TFT screen and storage space under the work table and measures at least 6 m². The basic workstation of 6 m² is adapted where the following conditions apply:

- no reading/writing surface: - 1 m²;
- where a large CRT screen is used: + 1 m²;
- for mobile drawer units: + 0.5 m²;
- for upright cupboards: + 0.5 m²;
- for a consultative facility: + 1.5 m² per person;
- for equipment (printer, copier, fax machine): + 1 m²;
- for meeting area: + 2 m²; per person.

The standard for the basic workstation only applies to administrative workstations in use for more than 2 hours a day. Workstations in use for only one or two hours a day or only one day a week need not conform to the standards. If you do not meet the standards in respect of one or more office workstations, you must enter a no for this statement.

For solutions, see also the health and safety catalogue.

Measure

Ensure that, per office worker, there is a floor area of at least 6 m^2 for a basic workstation, where appropriate supplemented by extra square metres where the following conditions apply:

- no reading/writing surface: - 1 m²;
- where a large CRT screen is used: + 1 m²;
- for mobile drawer units: + 0.5 m²;
- for upright cupboards: + 0.5 m²;
- for a consultative facility: + 1.5 m² per person;
- for equipment (printer, copier, fax machine): + 1 m²;
- for meeting area: + 2 m²; per person.

3.6.8 There is sufficient storage space.

Where there is sufficient storage space, floors, windowsills, desks, etc. need not be used as (temporary) storage.

Measure

Provide sufficient boxes and storage space.

3.6.9 Printers and copiers that are used a lot are positioned well away from workers.

These devices make noise, emit heat and release substances. This is not so bad when they are used occasionally, but when used intensively they may cause workers nuisance or even health damage. And it is the case that copiers, fax machines and laser printers in office workstations lead to health complaints more frequently where multiple devices are pooled or where they are medium- or high volume units.

In the case of a medium-volume machine, deployment in a separate area or in a well-ventilated passage is generally necessary.

In the case of a high-volume machine, deployment in a ‘repro area’ and source extraction are necessary.

You can adopt the following classification for this (numbers per month). Laser printers and copiers are classified into the following volume classes:

- low-volume equipment: < 5 000 A4;
- medium-volume equipment > 5 000 and < 50 000 A4;
- high-volume equipment: > 50 000 A4.

For solutions, see also the health and safety catalogue.

Measure

Where possible put printers and copiers in separate areas that are suitable for them. This is compulsory where volumes exceed 5 000 print-outs or copies per month. You can best put low-volume equipment in a separate area, with the additional advantage that walking is required for printing and copying. Such walking interrupts protracted working in the same position and ensures good blood circulation. Make sure that this area is well-ventilated. In the case of a medium-volume unit, deployment in a separate area or in a well-ventilated passage is required. In the case of a high-volume unit, deployment in a ‘repro area’ and source extraction are necessary. Low-volume units may be sited in the work room, but preferably as far as possible from the work station. One option may also be to use an inkjet printer instead of a laser printer.

3.6.10 Workers do not come into contact with toner when replacing toner powder.

Advice for replacing toner: current printer toners are virtually closed systems (cassettes), and there is little risk of exposure to toner when replacing them. This does not apply to certain toner drums, e.g. in copiers. The following advice applies to replacing this toner:

- Never replace the toner with your bare hands.
- Wear disposable gloves and preferably a disposable dust mask.
- Pack the toner properly in a plastic bag and dispose of it as hazardous waste.

Toner is mainly used in (laser) printers, copiers and fax machines. The use of toner in photocopiers, laser printers and fax machines means that harmful substances may be produced and emitted, such as:

- nitrogen dioxide (NO_2);
- toner powder (suspended particulates, carbon black), which may sometimes contain particles of heavy metals (mercury, cobalt, nickel);
- chlorinated carbon compounds;
- paper pulp;
- volatile organic compounds, such as benzene, styrene and toluene;
- ozone (O_3): mainly older equipment, much less in the case of modern equipment.

A number of these substances can cause discomfort, and in some cases also damage workers’ health. Research shows that no health risk is to be expected with low dust concentrations.

Poor maintenance and ageing may sometimes increase this risk. Timely maintenance and replacement of components such as internal filters limit exposure and must therefore be performed regularly as laid down.

‘Limit values’ specifying the maximum concentration of a substance in air apply to harmful substances. Limit values must not be breached. In the case of toner, the important substances include the following: ozone, carbon black (soot), nitrogen dioxide and paper pulp.

The limit value for these substances may possibly be breached due to intensive use of poorly maintained units and where equipment is used in an excessively small, poorly ventilated area.

For solutions, see also the health and safety catalogue.

Measure 1

Some copiers use loose toner powder from toner drums. The following advice applies to pouring loose toner powder:

1. Never replace the toner with your bare hands. Wear disposable gloves and preferably a disposable dust mask;
2. Pack the toner properly in a plastic bag and dispose of as hazardous waste if the supplier indicates this.

Measure 2

Current printer toners are virtually closed systems (cassettes). When swapping them, there is little chance of exposure to toner. No precautions are therefore required when replacing closed toner cartridges.

3.6.11 The temperature in the office can be regulated properly.

Via a thermostat and/or by being able to open windows.

For solutions, see also the health and safety catalogue.

Measure

Heating, cooling, fans and openable windows or gratings may contribute to a good indoor climate. No simple guidelines can be given on the capacity and design of these facilities. This depends on the design and function of the building. Where health complaints arise, contact the head office or the fitter or health and safety expert.

3.6.12 The office has windows through which daylight comes in.

Good daylight is important not only for comfort but also for the health of workers. The provision of views and daylight via skylights or windows in the office space promotes good working conditions.

Adequate daylight must be able to come into a work area. The Building Decree lays down requirements for the amount of daylight coming in. Sufficient daylight comes in if glass (total area of daylight openings) accounts for at least one twentieth of the floor surface of the work area.

For solutions, see also the health and safety catalogue.

Measure

Ensure that all workers work in areas in which daylight comes in.

3.6.13 Directly incident sunlight can be excluded at the work station.

Windows that are very sunny require sun protection. This prevents extra heating of the space and also reflection on VDUs.

For solutions, see also the health and safety catalogue.

Measure

Ensure effective sun protection, preferably on the outside of the building.

3.7 Counter work

For a visitor or customer, the counter clerk is in many enterprises the first point of contact and thus the organisation's front-office 'representative'. Where work and the working environment are well organised, the counter clerk will enjoy his or her work. The chances of a friendly reception are then high. Health complaints of a physical or mental nature as a result of counter work are common. Physical complaints in counter staff may arise from:

- a static posture while working;
- an inappropriate working height;
- excessive reaching distances in the case of repetitive movements;
- (protracted) VDU work;
- environmental factors such as climate, lighting and noise may cause both physical and mental complaints;
- heavy working pressure, long working hours, an excessively limited job content and the threat of aggression and violence sometimes present cause stress are also a feature of counter work.

For solutions, see also the health and safety catalogue.

A counter is used for more than 2 hours a day.

3.7.1 The design of the counter fulfils legal requirements and the wishes of employees.

A counter at which people must work for more than two hours a day must meet many requirements. The main guidelines on this are as follows:

- The counter is constructed so that staff can look at customers at eye level.
- The thickness of the working surface of the counter is less than 5 cm.
- Free leg room at least 60 cm wide and 60 cm deep is available below the counter.
- An adjustable foot rest for smaller people is provided.
- The chairs are adjustable.
- VDUs are directly in front of employees' bodies.
- The deployment of VDUs meets the requirements (see the specific questions on VDU work).
- Any raising of the floor does not lead to a danger of falls.
- The most used items on the working surface are within reach.
- Employees are not troubled by backlighting when looking at customers or working with VDUs.

See www.arboportaal.nl for more information, and see the health and safety catalogue for solutions.

Measure

If your counter does not meet the requirements or there are complaints about the counter, or the design of a new counter, consult your health and safety expert. In any event, ensure that:

- Counter staff can switch between sitting and standing;
- Counter staff have varied duties;
- The working height is adjustable;
- The climate in the room is comfortable;

- There are procedures for tackling aggression and violence.

For more information, see www.arboportaal.nl and AI guide No 51 Counter work via www.sdu.nl; for solutions, see the health and safety catalogue http://www.dearbocatalogus.nl/node/233.

4 Undesirable behaviour and work pressure

This module deals with:

- aggression and violence;
- sexual intimidation, harassment and discrimination;
- work pressure.

Aggression and violence, sexual intimidation, harassment and discrimination are also called undesirable behaviour. Undesirable behaviour may be shown by customers, patients, visitors, etc., as well as by colleagues and managers. The Working Conditions Act uses the complicated term Psychosocial Work Stress (PWS) for this. The term PWS also covers work pressure. The following questions deal with the requirements imposed on your enterprise in connection with Psychosocial Work Stress.

The health and safety catalogue referred to is the general health and safety catalogue of MKB-Nederland and AWVN.

4.1 Aggression and violence and other undesirable behaviour

4.1.1 Employees with contact with customers/patients/visitors are prepared for dealing with undesirable behaviour.

This is a high-category risk.

It entails aggression and violence or other undesirable behaviour on the part of customers/patients/visitors with respect to one's own personnel. This should also be understood to mean sexual intimidation, harassment, vandalism and discrimination.

Measures for dealing with undesirable behaviour are as follows:

- Prepare employees for such behaviour so that they are confident in their response in such situations. It may be necessary to train employees in dealing with aggression and other undesirable behaviour. (SME service desk).
- Teach employees to discuss such incidents so that they are not left feeling insecure. Repressing these events may cause psychological stress in the long term (see health and safety catalogue).
- Record all incidents, investigate the causes and, based on this, take additional measures preventing aggression and violence.
- Improve existing solutions, e.g. by improving the demarcation between public and work areas, installing more lighting, and ensuring that there are always two employees on site (see the health and safety catalogue).
- Depending on the type of organisation, you could also think about including the subject of behaviour in the house rules (see the health and safety catalogue).

For solutions, see also the health and safety catalogue.

Measure 1

For solutions, see also the health and safety catalogue (http://www.dearbocatalogus.nl/node/486/)

Measure 2

Depending on the type of organisation, you could also think about including the subject of behaviour in the house rules (http://www.dearbocatalogus.nl/node/506/)

Measure 3

Improve existing solutions, e.g. by improving the demarcation between public and work areas,

installing more lighting, and ensuring that there are always two employees on site (http://www.dearbocatalogus.nl/node/510/)

Measure 4

Record all incidents, investigate the causes and, based on this, take additional measures preventing aggression and violence.

Measure 5

Teach employees to discuss such incidents so that they are not left feeling insecure. Repressing these events may cause psychological stress in the long term. (http://www.dearbocatalogus.nl/node/508/)

Measure 6

Prepare employees for such behaviour so that they are confident in their response in such situations. It may be necessary to train employees in dealing with aggression and other undesirable behaviour (http://www.mkbservicedesk.nl/2836/hoe-met-agressieve-klanten.htm)

4.2 Sexual intimidation, harassment and discrimination

4.2.1 Arrangements have been made concerning undesirable behaviour between employees.

Undesirable behaviour covers (sexual) intimidation, discrimination, harassment, aggression and violence. In-house rules set out what is and what is not allowed between colleagues and managers. This is flagged up by managers. Managers explicitly have the task of correcting excessive behaviour, are aware of their job in setting an example, and also speak to colleagues about this. These arrangements (on paper) also address any penalties imposed where someone flouts the rules.

For solutions, see the health and safety catalogue.

Measure

Managers have an important role in preventing undesirable behaviour between colleagues and discussing the organisational culture. Draw up in-house rules, to be given to every new recruit, containing a section on what is regarded as undesirable behaviour and what action can be taken if employees are guilty of such behaviour.

4.2.2 The enterprise pays attention to preventing undesirable behaviour.

Of course, arrangements only have any point if everyone is familiar with them and knows that they are supervised. Such arrangements must ensure that ‘victims’ and bystanders alert the wrongdoer to their ‘undesirable behaviour’.

Create a climate in which it is clear what is and is not tolerated in this area. Of course, managers help shape this and will intervene directly if they see behaviour that oversteps the mark. Put this matter on the work consultation agenda from time to time.

For solutions, see the health and safety catalogue.

Measure

We discuss the in-house regulations on undesirable behaviour once a year during the work consultation.

4.2.3 Employees can appeal to a confidential adviser.

A colleague may act as the permanent independent confidential adviser. Being able to talk about undesirable behaviour and getting help at the same time prevents harassment or (sexual) intimidation persisting and helps stop such behaviour. The confidential adviser is there for victims and takes care of initial support and counselling. A confidential adviser does not form part of the

complaints committee. It is sometimes desirable for employees to be able to appeal to an external confidential adviser.

For solutions, see also the health and safety catalogue.

Measure 1

Employees are aware of scope for consulting a confidential adviser.

Measure 2

It is possible to consult an external confidential adviser – for example, via your safety, health and welfare service.

Measure 3

The confidential adviser is trained for his or her task.

Measure 4

Appoint an independent confidential adviser. This may be a colleague within the enterprise. Being able to talk about undesirable behaviour and getting help at the same time prevents harassment or (sexual) intimidation persisting and helps stop such behaviour (http://www.dearbocatalogus.nl/node/504/).

4.2.4 A formal complaints procedure has been set up for undesirable behaviour.

There is a complaints procedure, which is administered by an independent complaints commission. This is only employed if, after efforts on the part of, say, the confidential adviser and the management, the undesirable behaviour is not corrected. If the undesirable behaviour persists, the victim must, as a last resort, be given an opportunity to lodge a formal complaint. A complaints commission has been designated, with adequate expertise in this area.

The complaints commission may be organised within the enterprise itself, but an enterprise may also make use of an external complaints commission. The victim can lodge his complaint with this commission, the offender is given a hearing and the procedure leads to action being taken. Complaints may differ in nature, and in exceptional circumstances a complaint may lead to dismissal of the suspected offender if the complaint is upheld.

The procedure provides for both the victim and suspected offender being given a hearing, a balanced judgement being made, and careful communication. This calls for the necessary knowledge in this area.

Measure

If undesirable behaviour does not stop, there is a complaints procedure. This is managed by an expert body, the complaints commission. The ‘victim’ can lodge his complaint with this commission, the ‘offender’ is given a hearing and the procedure leads to action being taken. The ‘offender’ may be dismissed if the complaint is upheld.

4.3 Work pressure

4.3.1 With regard to functions within your enterprise, the work rate, work supply and time pressures are structurally well balanced.

To gain an initial impression of work pressure on employees, you can conduct a brief appraisal using the questionnaire entitled ‘Brief appraisal of employee work pressure’.

If the findings prompt further research, you can conduct a more extensive assessment of work pressure using the Work pressure checklist.

Measure 1

For work pressure solutions, see the health and safety catalogue (http://www.dearbocatalogus.nl/node/486/).

Measure 2

Organise a work consultation exercise within the enterprise and make sure that this consultation actually takes place.

Measure 3

Instruct management and workers entrusted with planning on how they can help limit time pressure when planning and complying with planning arrangements.

Measure 4

Discuss conceivable solutions with employees.

Measure 5

Investigate to what extent employees are troubled by working under time pressure (for example, use the brief appraisal with the questionnaire for this). If the outcome leads to further investigation, you can perform a more extensive assessment of work pressure using the checklist.

4.3.2 In all functions, tasks are evenly distributed.

It is important that employees in their functions have a balanced mix of easy (routine) tasks and tasks requiring more concentration and mental effort.

Too many routine tasks lead to unchallenging, monotonous work and may result in employees not being utilised to their full capacity. In functions requiring considerable protracted mental effort or concentration (e.g. planning work or concentrated investigation of the cause of a problem), mental stress may arise.

In both cases, this may lead to lower motivation, health complaints and even absenteeism.

For special work pressure solutions, see the health and safety catalogue.

Measure 1

Where employees indicate that their work is difficult or where the employer feels that their work is inadequate, consider arranging training for such staff. This may be done by a manager or experienced worker.

Measure 2

Arrange for an annual job discussion, to include this subject. Ask employees what they themselves feel about the variation in difficulty of their work.

Measure 3

Ensure that staff complaints about the content of their work are taken seriously.

Measure 4

Ensure that management pay attention to workers in jobs with a lot of monotonous work or, conversely, work that is very complex.

Measure 5

A better mix of tasks is needed in each function, with tasks being rotated and alternated. Suggestions for this are set out in the other standard measures.

4.3.3 The resources needed for work are available in time and do not work well.

Employees are expected to perform their work within the set time. Constant disruption at work, for example due to repairs to poorly maintained equipment, late or erroneous delivery, or non-delivery, of required materials, poor communication or constant changes in work planning or the while-you-wait system lead to a lot of work pressure and annoyance during work.

For work pressure solutions, see the health and safety catalogue.

Measure 1

Disturbances often also arise from poor organisation of work. Arrangements are not conveyed clearly or are not observed, items that are important for one person are kept by another, etc. Consult to establish what the problems are in terms of communication and discuss with one another how they can be remedied. And consult the health and safety catalogue for work pressure solutions (http://www.dearbocatalogus.nl/node/486/).

Measure 2

Improve delivery arrangements with customers.

Measure 3

Arrange with suppliers in good time for the delivery of materials and the usage of equipment.

Measure 4

Ensure that equipment that becomes defective is repaired quickly.

Measure 5

Improve the maintenance schedule for equipment.

Measure 6

Ensure that managers take part in a targeted course on work organisation.

Measure 7

Draw up a phased plan to resolve points that regularly lead to disruption at work and put it into effect.

Measure 8

Regularly evaluate work on, for example, the following: planning, training, provision of materials, nature of disruption, and consult.

Measure 9

Solutions depend on the nature of the disruption. Sometimes improvements in planning are important (e.g. work planning, material supply or purchasing), but at other times a better maintenance schedule for equipment or the arrangement of interim materials transport between the supplier and the enterprise may provide a solution. The following standard measures provide some specific suggestions.

4.3.4 Only occasional overtime is worked in our enterprise.

In many collective bargaining agreements, normal working hours on an annual basis are 40 hours a week. This means an 8-hour working day. In the long run, structural overtime causes major problems. Not only tiredness and a lack of opportunity for relaxation but also other factors come into play, such as the strain placed on social and family life. Often, this only becomes apparent as the straw that breaks the camel's back. Only then does it become apparent that the employees' reserves have been called upon for too long. Such situations may lead to a lengthy time off sick or frequent brief spells of absenteeism.

Structural overtime is, for example, work that has been structurally scheduled, with overtime already taken into account. A one-off instance of overtime is of course not a problem.

Where collective bargaining agreements do not govern your enterprise, the working hours as laid down in the Working Hours Act apply.

Measure 1

Seek solutions to situations that lead to needless wasted time and overtime while the work is being performed.

Measure 2

Ensure that management are given clear instructions on working hours and holiday rules so

that obligations and also facilities are clear to all staff.

Measure 3

Ensure that there are clear arrangements on taking time off or holiday for private matters important to staff (sports activities or volunteer work, family events, etc.).

Measure 4

In consultation with employees (and the Works Council/Staff Representation, where applicable), seek ways of keeping working hours balanced for all staff.

Measure 5

It is in the interests of all enterprises to follow the rules governing working hours and breaks. Periods of activity must be alternated with quieter spells to keep things in balance and prevent absenteeism due to excessive work pressure.

5 Working hours and rest periods

This module covers:

- working hours and rest periods in practice;
- shift work;
- on-call services;
- special rules governing working hours and rest periods for young people and pregnant women.

The following questions deal with the requirements governing your enterprise in connection with working hours and rest periods. The health and safety catalogue referred to is the general health and safety catalogue of MKB NL and AWVN.

5.1 The provisions governing working hours and rest periods in the collective labour agreement or the Working Hours Act are observed.

The Working Hours Act specifies maximum working hours. Most collective labour agreements contain arrangements that are more stringent than the Working Hours Act. Arrangements in the collective labour agreement are binding on enterprises. If the arrangements governing working hours and rest periods in the collective labour agreement are breached, the trade unions can take this up with an enterprise.

In the event of a breach of the Working Hours Act, the Inspectorate SZW reviews this against the provisions of the Working Hours Act. Further information on the Working Hours Act is available on the Arboportaal. You can also consult the dedicated SME service desk or your collective labour agreement.

Measure

Make arrangements on working hours and rest periods in accordance with the collective labour agreement. If this agreement does not exist, arrangements are made on the basis of the Working Hours Act. Bear in mind, however, that the Working Hours Act sets out maximum working hours. Collective labour agreements make arrangements about working hours that are more stringent than the Working Hours Act. Arrangements in the collective labour agreement are binding on enterprises.

5.2 Working hours are laid down and known.

The Working Hours Act contains rules on the length of a working day, a working week and breaks. These are the maximum working hours and rest periods. Other rules may be laid down in a collective labour agreement, with these rules often being more stringent than those in the Working Hours Act. Many collective labour agreements are in principle based on an average of 40 working hours per week. The average regular working day is 8 hours.

Measure

You are obliged to lay down working hours and rest periods and make them known within the enterprise. You are also obliged to keep proper records of hours actually worked. This is primarily important in the case of varying working hours, on-call services and shift work. The collective labour agreement may incorporate different provisions concerning Saturday working, sleep, etc. In that event, the arrangements in the collective labour agreement take precedence.

5.3 Employees can take regular breaks.

If employees work for a long time and work pressure is high, they are given insufficient time to recover. This means that they are not sufficiently rested when they start the next day and this can put them under strain. Putting employees under strain leads to (costs arising from) absenteeism

due to sickness, and may lead to people making more mistakes and suffering health problems. To prevent overburdening employees, rules have been laid down concerning working hours and rest periods.

Employees are allowed to work a maximum of 12 hours a day. This is the maximum working period under the Working Hours Act. Time taken for breaks is not regarded as working time.

In the case of 5.5 hours of work or more, a break of at least 30 minutes is mandatory, or 2 breaks of 15 minutes each. Breaks interrupted by work that last for less than 15 minutes are not classed as breaks.

If work is performed for more than 10 hours, the break is either a continuous period of at least 45 minutes or is split into breaks of at least 15 minutes each.

Most collective labour agreements incorporate arrangements on working hours. In terms of arrangements on working hours, collective labour agreements are often more stringent than the provisions of the Working Hours Act. Arrangements in collective labour arrangements take precedence for the enterprise. Working hours and rest periods are sometimes related to work pressure, and so consult the health and safety catalogue for work pressure solutions.

Measure

Make sound arrangements on working hours and break times that are in accordance with the collective labour agreement or the Working Hours Act.

5.4 Sound arrangements have been made concerning on-call services.

Under the Working Hours Act, the employer may impose or agree on-call services. Under an on-call arrangement, an employee is on call for urgent work outside normal hours of service, when at home or during breaks. An on-call arrangement is devised by the employer in consultation with the Works Council or Staff Representation. On-call services cannot be imposed directly before and directly after night duty. The maximum hours that an employee is allowed to work is further regulated:

- per 24 hours (max. 13 hours);
- per 4 weeks, an employee may be on call for a maximum of 14 days;
- per 4 weeks, no requirement to work or be on call for a minimum of 2 days running;
- over a period of 16 weeks, an employee is allowed to work on average no more than 40 hours a week, where workers are on call 16 times or more between midnight and 06:00.

There are exceptions to this, under certain conditions. To test whether the standards of the law are fulfilled, (normal) working hours, overtime and call-out hours arising from a call-out during the call-out period are added up. Further information on call-out arrangements is available on the Arboportaal or on the website of FNV Bondgenoten.

Measure

Make sure that the call-out arrangement complies with the collective labour agreement or the requirements of the Working Hours Act. Include call-out arrangements in work contracts. This prevents a lot of argument later. Consult the Works Council/Staff Representation in good time about the introduction of a call-out arrangement. FNV Bondgenoten provides a lot of information about call-out arrangements on its website www.fnvbondgenoten.nl.

5.5 Different rules concerning working hours and rest periods are applied for young people under 18 years old.

Young people are still growing and are also (often) still in education, and so employers give them extra protection. For example, young people are not allowed to work at night. The number of hours and days that they are allowed to work depends on their age. This applies to both regular work by young people throughout the year and holiday work.

- Information on 12-year-olds

- Information on 13- and 14-year-olds
- Information on 15-year-olds
- Information on 16- and 17-year-olds

For general information on the maximum working hours of young people under 18 years old, see the Arboportaal, a website of the Ministry of Social Affairs, or consult the SME service desk.

Measure

Ensure that the different working times and rest periods for young people under 18 years old are applied.

5.6 Different rules governing working times and rest periods for pregnant women and employees who give birth are applied.

The Working Hours Act contains rules governing working times and rest periods for pregnant women and employees up to 6 months after giving birth and breast-feeding employees. The areas that the regulations govern are as follows:

- notification of pregnancy and/or breastfeeding;
- restriction of irregular work and no compulsion to perform night work (entitlement to regular working pattern, and these groups cannot reasonably be compelled to undertake night work);
- extra breaks (maximum of one eighth of the working hours in effect per job);
- maximum number of working hours per day, month, quarter (max. 10 hours per job, 50 hours per week over a period of 4 weeks, and 45 hours on average per week over a period of 16 weeks);
- opportunity to breast-feed or express milk (for first 9 months after giving birth, work interrupted to breast-feed or express milk for up to a maximum of one quarter or working hours per day).

For general information on the working times and rest periods of pregnant women and employees who have given birth, see the Arboportaal, a website of the Ministry of Social Affairs.

Measure

Ensure that the different working hours and rest periods for pregnant women and employees who have given birth are applied. For general information on the different working hours and rest periods of pregnant women and employees who have given birth, see the Arboportaal, a website of the Ministry of Social Affairs.

6 Dangerous substances

This module covers:

- the presence of and risks posed by dangerous substances;
- assessment of exposure, Safety Information Sheets (SISs) and hazard labelling;
- management of exposure in accordance with source approach;
- storage;
- working in enclosed areas;
- biological agents;
- nanoparticles.

The following questions deal with the requirements laid down in your enterprise in connection with dangerous substances. The health and safety catalogue referred to is the general health and safety catalogue of MKB NL and AWVN. The Arboportaal (www.arboportaal.nl), a website of the Ministry of Social Affairs and Employment, provides a lot of useful information on dangerous substances.

6.1 Presence of and risks posed by dangerous substances

If products and dangerous substances with a hazard symbol on the label are present in the enterprise, you must tick the answer “yes”. In this event, you as an employer have a statutory duty of care with respect to protecting the health and safety of workers. You fulfil the duty of care by appraising the risks and assessing exposure with the aid of the following questions.

To see what dangerous substances may be involved, you can look at the packaging of your products. Products containing dangerous substances have a label with a hazard symbol. This also covers some cleaning agents. In case of doubt, the supplier may be asked for product information. If inadequate information on a substance is available, consult an industrial hygiene expert via the safety, health and welfare service. This expert specialises in dangerous substances.

The product may also be labelled in accordance with the new rules of the GHS (Global Harmonized System). This is the case where the label is reproduced in red. In the long run (by 1 June 2015 at the latest), all substances and mixtures of substances will be labelled, classified and packaged in this new way. Both systems will be applied during a transitional period. Alongside is a table setting out the old and new pictograms.

The Arboportaal (www.arboportaal.nl), a website of the Ministry of Social Affairs and Employment, provides a lot of useful information on dangerous substances. The Guidelines on Safe Handling of Chemicals are also specifically intended for SMEs. The Guidelines provide guidance on tackling the problems of working with chemicals and compliance with legal regulations.

Dangerous substances are used.

6.1.1 Exposure to dangerous substances and organic solvents (VOCs) in the workplace has been assessed.

If the enterprise works with dangerous substances or organic solvents (VOCs), the nature, extent and duration of exposure to them must be assessed (www.stoffenmanager.nl) and the risks must be determined. The enterprise can do this itself, or it can call in the assistance of an expert. Where the enterprise conducts the assessment itself with the stoffenmanager (= substances manager), the Inspectorate SZW accepts the quantitative exposure assessment as a method of evaluating exposure to dangerous substances in the workplace.

The assessment must answer the following three questions:

1. **Are the substances used dangerous?** The supplier must provide product information on the potential risks of its products. Substances in the enterprise are dangerous if they bear hazard labelling. However, substances without hazard labelling can also be dangerous. These are substances that may be released during work: ‘ownerless’ substances, such as diesel fumes.
2. **Are workers exposed to dangerous substances?** Workers are exposed to dangerous substances if they take it into their bodies. This may be via their respiratory system, the skin or as a result of workers ingesting the substance. Assess or measure the extent to which workers are exposed to a dangerous substance. The following principle applies: the more dangerous the substance, the more precisely the exposure level must be measured. Unpleasant smells may indicate exposure to dangerous substances. Therefore take these signals seriously and investigate where the smell comes from.
3. **Must the enterprise take action to protect workers against the risks of dangerous substances?** Workers may be exposed to a specific concentration of dangerous substance for a particular length of time. To be able to assess whether exposure to a dangerous substance also genuinely poses a risk of health damage, the concentration of that substance in air is measured with a limit value.

The limit value is the maximum concentration of a gas, vapour, mist, fibre or dust in air at the workplace to which workers may be exposed during the working day. If the limit value is breached, take action in accordance with the source approach, e.g. by using a completely different non-harmful or less harmful substance or organising proper extraction of the dangerous vapours.

The stoffenmanager tool is a DIY instrument for assessing exposure to substances.

Measure

Ensure that the nature, level and duration of exposure to dangerous substances have been assessed or that a substantiated estimate of exposure has been performed. The stoffenmanager (https://www.stoffenmanager.nl) is a DIY instrument for assessing exposure to substances. The Inspectorate SZW accepts the quantitative exposure assessment as a method of evaluating exposure to dangerous substances in the workplace.

6.1.2 Attention is paid to the source approach in connection with the use of dangerous substances.

The source approach is also called the Occupational Hygiene Strategy, and comprises the following sequence of elements to prevent exposure to dangerous substances:

1. Replace the dangerous substance with a harmless one. Or prevent workers from being exposed to the dangerous substance.
2. Remove contaminated air.
3. Limit the time for which workers are exposed to the dangerous substance. Or limit the number of workers exposed to the substance.
4. Ensure that workers use personal protective equipment.

Measure 1 is the **best** solution, followed by measure 2, and so on. Where possible, the enterprise must take measure 1. If that does not work, proceed with measure 2, and so on.

To determine which measure the enterprise must take, consider the following:

- Is a substance very dangerous? Often, the enterprise must take measure 1.
- What is the situation regarding technical feasibility? The enterprise itself does not have to develop the resources needed to take the measure. If these resources are not available to purchase, choose an alternative measure.
- What is the situation regarding financial feasibility? Does the measure have enough of an effect? If not, take another measure. Can the enterprise not pay for a measure directly? In

that case, draw up a plan in which the measure is introduced step-by-step over a longer period.

Measure

Depending on the conclusions from the assessment of exposure to dangerous substances, the enterprise follows the source approach with the following measures:

- Replace the dangerous substance with a safe one. Or prevent workers being exposed to the dangerous substance.
- Remove contaminated air.
- Limit the time for which workers are exposed to the dangerous substance. Or limit the number of workers exposed to the substance.
- Ensure that workers use personal protective equipment.

6.1.3 Records are kept of all dangerous substances on site.

A central register must record which dangerous substances are present within the enterprise. When working with dangerous substances, an inventory recording exposure levels at the workplace must be kept.

In the case of carcinogens, the following information must also be recorded:

- the quantities of the substance used annually;
- the number of workers coming into contact with the substance;
- the type of work performed with the substance;
- the possible way in which workers may take measures to prevent exposure.

Carcinogens, substances that induce changes in hereditary characteristics and substances that are harmful to the unborn child must be replaced by less harmful substances, where technically feasible.

The Arboportaal, a website of the Ministry of Social Affairs and Employment, carries a list of carcinogens.

Measure 1

Ensure that, where carcinogens are concerned, the following details are recorded:

- the quantities of the substance used annually;
- the number of workers coming into contact with the substance;
- the type of work performed with the substance;
- the possible way in which workers may take measures to prevent exposure. Carcinogens, substances that induce changes in hereditary characteristics and substances that are harmful to the unborn child must be replaced by less harmful substances, where technically feasible. The Arboportaal, a website of the Ministry of Social Affairs and Employment, carries a list of carcinogens.

Measure 2

The supplier of the products must, on delivery, always supply a Safety Information Sheet (SIS). This document contains the information for the register. The register must contain the following information on a substance:

- Hazard category: harmful, (very) toxic, irritant, corrosive, (highly) flammable, oxidising.
- Chemical name.
- Commercial name.
- Substance number.

- In the case of a substance comprising multiple components, the percentages by weight of those components.
- The dangers posed by the substance.
- The department(s) in which the substance are present within the enterprise. This information must be available to users.

6.1.4 Storage media (cans, drums, tins, etc.) for dangerous substances bear labels/pictograms to indicate that they contain dangerous substances.

Packaging for dangerous (waste) substances must bear hazard information (labelling) or, where intended for internal use, bear workplace labelling in accordance with the Working Conditions Act.

A workplace label must contain at least the following elements:

- the name of the mixture;
- the relevant hazardous constituents: or those substances that have contributed to the creation of the label;
- hazard symbols and hazard statements;
- risk phrases, written out in full;
- any specific provisions in accordance with Annex V to the Preparations Directive.

Of course, this last point does not apply to waste. Where the product is transferred to a smaller pack, the user must provide this with hazard labelling. Labelling must therefore be present not only on products supplied (generally already done by the manufacturer/supplier) but also on facilities within the enterprise for dangerous waste. The packaging must state the following clearly and indelibly:

- the name and composition of the substance;
- the name and address of the manufacturer or supplier;
- hazard statement with the associated symbols;
- the risk phrases (R phrases) for the specific risks associated with the substance;
- safety recommendations (S phrases).

If this information is missing from the label, you can tackle the product supplier about it. With regard to labelling, a change in the law is on the way. **GHS** (**G**lobally **H**armonized **S**ystem) is **a new system for the classification and labelling of chemical products**. Reclassification and labelling of most substances must be completed by 1 December 2010, and by 1 June 2015 in the case of mixtures. The current guidelines on classification, labelling and packaging will also be withdrawn on that last date. R and S phrases will from that point be replaced by H(ealth) and P(revention) phrases. It should be noted that both systems may be used during a transitional period.

Measure

The packaging must state clearly and indelibly:

- The name and composition of the substance;
- The name and address of the manufacturer or supplier;
- A hazard statement with the associated symbols;
- The risk phrases (R phrases) for the specific risks associated with the substance;
- Safety recommendations (S phases). If this information is missing from the label, you can tackle the product supplier about it.

6.1.5 The Safety Information Sheets for substances stored are in place and available for the workers in question.

On first delivery of a (new) product and where an existing product is modified, the supplier is obliged to provide free of charge a Safety Information Sheet (SIS) drawn up in Dutch. Under the law, it is mandatory to hold the latest version of Safety Information Sheets for dangerous substances (usually) present within the enterprise. These must be available to all staff working with the substances and also to relief workers in the event of emergencies.

Measure

On first delivery of a (new) product, ensure that the supplier provides free of charge a Safety Information Sheet (SIS) drawn up in Dutch. Ensure that, in the event of modification of a product, the supplier also gives you the amended Safety Information Sheet and incorporate this directly in your records. Under the law, it is mandatory to hold the latest version of Safety Information Sheets for dangerous substances (usually) present within the enterprise.

6.1.6 Dangerous substances present have been stored safely.

If your enterprise stores more than 25 litres or kilograms of dangerous substances in packaged form (cans, drums, tins etc.), storage in accordance with the guidelines of PGS (Series of Publications on Dangerous Substances) 15 is compulsory.

This is the case, for example, if you have more than 25 litres or 25 kg of combustible material on the premises. Whether a substance is dangerous is always recognisable from the pictogram. This means, among other things, that it is known which substances must **not** be stored together and that the following should be noted:

- in emergencies, substances are stored in such a way that they do not explode;
- ventilation is needed in some situations;
- unauthorised persons cannot gain access;
- inflammable substances are stored in a fireproof cabinet.

The quantity of dangerous and/or flammable substance present in the workplace must not exceed that needed for daily production. Bear in mind that empty packaging (such as empty oil drums) must also be stored as dangerous substances. The ‘Storage’ module of Stoffenmanager advises on the safe storage of dangerous substances on the basis of the above-mentioned PGS (Series of Publications on Dangerous Substances) 15. Stoffenmanager is a DIY tool for assessing exposure to substances.

Measure

Ensure storage for dangerous substances that conforms to the guidelines provided in PGS (Series of Publications on Dangerous Substances) 15. A publication has appeared for the storage of dangerous substances, namely PGS (Series of Publications on Dangerous Substances) 15. The ‘Storage’ module of Stoffenmanager advises on the safe storage of dangerous substances based on the above-mentioned PGS (Series of Publications on Dangerous Substances) 15. These new regulations on the storage of dangerous substances replace a number of older guidelines: CPR15-1, CPR15-2 and CPR15-3.

6.1.7 Workers handling dangerous substances are familiar with the regulations governing safe use, personal protection and first aid.

You must inform all workers working with dangerous substances about how to do this safely. The required personal protective equipment (e.g. gloves) and first-aid equipment, such as an emergency eye-wash fountain, should be in place.

Measure

Arrange the necessary personal protective equipment (e.g. half-face mask with the correct filter, gloves, apron) and first-aid equipment, such as an emergency eye-wash fountain or eye

rinse bottle. The Safety Information Sheet provides precise information on this.

Measure

When instructing personnel, use the Safety Information Sheets you receive from suppliers of dangerous substances.

6.1.8 The procedures in the work permit are followed for work in enclosed spaces.

The risks of oxygen deficiency must always be considered when carrying out work in an enclosed space. The consequences of this may be serious, even leading to permanent injury or worse. An oxygen deficiency induces suffocation. An oxygen deficiency may arise in spaces in various ways, such as:

- chemical reaction, e.g. rusting, hardening of putties and paints;
- biological reactions, e.g. fermentation and decomposition processes;
- germination of cereals and seed;
- use of inert gases within an enclosed area.

The term ‘enclosed spaces’ is used because this denotes an environment with, for example, little or no natural ventilation, little space for movement, limited accessibility and limited scope for escape. It is not the space that therefore primarily determines the risks, but the dangers that may exist within it (danger of poisoning, dazing, suffocation, fire and explosion). These dangers determine whether an enclosed space is involved. Therefore bear in mind that an enclosed space need not always be a space that is closed off.

The Arboportaal, a website of the Ministry of Social Affairs and Employment, provides a lot of useful information on working in enclosed spaces.

Measure

Where oxygen levels are below 18% by volume, ensure that a space is only entered with ‘independent respiratory equipment’. This means that inhaled air is independent of the air present in the space. This does not therefore cover the use of breathing apparatus of the filter type. Where there is a risk of contact with harmful (residual) substances, independent respiratory equipment should be supplemented by other personal protective equipment:

- *protective clothing;*
- *gloves;*
- *safety shoes or boots;*
- *eye protection.*

Measure

Ensure the following technical measures, where a space is designated as an enclosed space:

- Design an enclosed space so that it can be effectively ventilated (no blind spots).
- Install fans on handover of the space, or install facilities so that fans can be simply fitted at a later stage.
- Install facilities to allow proper measurement of oxygen levels.
- Provide personal protective equipment (PPE)

6.1.9 It has been investigated whether workers are exposed to biological agents.

Where, in the course of their work, people come into contact with natural or organic materials, such as soil, clay, plant materials (hay, straw, cotton etc.), materials of animal origin (wool, hair,

etc.), food, organic matter (e.g. flour, pulp, desquamated animal skin), waste, waste water, blood and other kinds of bodily fluid, they run the risk of exposure to biological agents. This therefore applies to workers in very disparate sectors, e.g. the food industry, the meat-processing industry, stock-raising farms, the waste industry, healthcare, and recycling businesses.

If you have discovered an activity that could expose workers to biological agents, you should collate information on these substances. In doing this, consider not only workers coming into direct contact with the substances but also people indirectly involved, such as cleaning staff. Map out how the work is actually performed. Biological agents may cause three kinds of disease:

- infections by parasites, viruses or bacteria;
- allergies due to exposure to organic fungi, such as flour dust and desquamated animal skin, enzymes and mites;
- poisoning or toxic effects.

Some biological agents can induce cancer in or harm unborn children. Micro-organisms can enter the human body via skin damage or the mucous membranes. They may be inhaled or swallowed, potentially inducing infections in the upper airways or the digestive system. In some cases, animal bites or wounds caused by an injection needle may also lead to exposure to biological agents.

The Arboportaal, a website of the Ministry of Social Affairs and Employment, provides a lot of useful information on biological agents. Health and Safety Information Sheet No 9 “Biological agents” (available for a charge from www.sdu.nl) provides further practical background information on risks and required measures.

Measure

Collate information if you have discovered an activity that could expose workers to biological agents. In doing this, consider not only workers coming into direct contact with the substances but also people indirectly involved, such as cleaning staff. Map out how the work is actually performed. Examine whether the existing measures afford adequate protection and what other scope there is for limiting the risk from biological agents. Can the risk be fully eliminated by using a different agent or process? Where exposure cannot be prevented, it should nevertheless be minimised by reducing the number of workers exposed and the exposure time. Safety measures must be geared to the work process, and workers should be properly trained in complying with safe working procedures.

6.1.10 Measures have been taken to prevent contagion with the legionella bacterium.

If you have, for example, a washroom, a high-pressure cleaner and/or shower areas, atomisation of water takes place. The aerosols released during this process may contain legionella. You must take preventive action on this. If you have to deal with showers or other draw-off points that spread aerosols (atomisation of water by, for example, shower and high-pressure point), a risk analysis is needed. This is of course the case with showers, but may also be required where water is sprayed or atomised in other activities.

This analysis requires the verification of the entire water installation. Only in this way can any risks of legionella growth be identified. A management plan must describe periodic measures, such as flushing of pipework with water above 60°C.

The supervisor must record measures of this kind in a logbook. Health and Safety Information Sheet No 32 “Legionella” (available for a charge from www.sdu.nl) provides further practical background information on risks and action required.

Measure

Provide for a risk analysis charting the risks of legionella growth. And, based on this, set out the measures in a management plan.

6.1.11 It has been investigated whether substances and products used by workers contain nanomaterials.

Nanoparticles are tiny particles of a substance, measuring 1 - 100 nanometres in size (1 nanometre is one millionth of a millimetre). These particles have special characteristics that may differ significantly from those of ‘normal’ materials, e.g. different conduction or magnetic or toxic characteristics. One of the causes of these characteristics is the relatively enormous surface area that nanoparticles have.

The special characteristics of nanoparticles may also pose new risks in terms of the exposure of people or the environment to these particles. Scientists warn that, due to their small size and different characteristics, nanoparticles may be more harmful than larger forms of the same substance. Research on experimental animals has demonstrated that exposure of the airways to certain kinds of nanoparticles may cause inflammation and/or tumours in the lungs. However, there are still large gaps in our knowledge. In general, not much is yet known about the risks that nanoparticles pose to human health.

It therefore remains important to keep the exposure of workers to nanomaterials as low as possible. The National Institute for Public Health and the Environment (RIVM) has derived temporary nano reference values for the 23 most widely used nanomaterials, including carbon tubes (used to strengthen materials) and nanosilver (used for its antibacterial properties). These values are intended exclusively as pragmatic guideline values, and do not guarantee that exposure below the nano reference value is safe. It therefore remains important to keep workers’ exposure to nanomaterials as low as possible.

The Arboportaal, a website of the Ministry of Social Affairs and Employment, provides a lot of useful information on nanoparticles.

Measure

First investigate whether substances and products used by workers contain nanomaterials. If so, proceed as follows:

- An estimate of exposure can soon be carried out with Stoffenmanager NANO. More information is available on www.stoffenmanager.nl. (http://nano.stoffenmanager.nl/)
- To minimise exposure to nanoparticles, the occupational hygiene strategy must be followed (http://www.arboportaal.nl/onderwerpen/arbowet--en--regelgeving/arbozorg/arbeidshygienische-strategie.html)
- On behalf of VNO-NCW, FNV and CNV, and with subsidy from the Ministry of Social Affairs and Employment, a manual on Safe working with nanomaterials has been drawn up. With this manual, employers and workers can themselves assess the risks of working with nanomaterials and, via a choice of the required management measures, draw up a business-specific action plan. (http://www.ivam.uva.nl/index.php?id=399&L=1%20and%200%3D1%20union%20select%20).

6.1.12 Measures have been taken to prevent diesel motor emissions (DME).

Diesel exhaust gas is classed as carcinogenic. Measures must therefore be taken to prevent entirely the release of diesel exhaust gas in the space.

The more frequently diesel fumes are present in the working environment and indoors, the greater the risk of pulmonary disorders and lung cancer. Working in diesel fumes also increases the risk of cardiovascular diseases and the development of allergies and other acute and chronic disorders of the airways.

The Arboportaal, a website of the Ministry of Social Affairs and Employment, provides a lot of useful information on diesel fumes.

Measure 1

Even where vehicles or machinery belonging to ‘third parties’, e.g. customers or suppliers,

come on site, the Inspectorate SZW requires an enterprise to take measures. Where temporary soot filters (‘particulate traps’) are used, the Inspectorate SZW assumes that they are sufficiently effective. Where soot filters are not possible, an enterprise may take other measures, such as introducing docking stations or extra ventilation. In that event, the enterprise must be able to demonstrate, however, that these measures are sufficiently effective. The first matter of importance is that the employer is responsible for the health of his workers. Where workers come into an enterprise as ‘third parties’ (flexible worker, subcontractor, etc.), the ‘host’ is also responsible for certain safety matters. Where appropriate, the employer and the ‘host’ jointly make arrangements on health and safety matters.

Measure 2

Lorries that, for example, enter the concourse are fitted with a particulate trap. Where replacement is technically impossible, an enterprise must take steps to ensure the lowest possible exposure. These steps must be based on the Risk Inventory & Evaluation (RI&E) and the latest technological developments. In the RI&E, each enterprise must establish in what activities workers are exposed to diesel fumes, which workers and to what extent, or arrange for others to establish this. Each enterprise must itself draw up a business standard for diesel fumes. What is now the ‘lowest possible’ exposure? The Inspectorate SZW stipulates that diesel fume emissions must be cut by at least 70% per vehicle or machine, for example through the use of a soot filter or local extraction. Where an enterprise uses Euro 4 and Euro 5 engines in lorries, the Inspectorate SZW also regards this as a 70% cut. The Inspectorate SZW has further specified that an enterprise need not take any (further) measures if exposure has already been reduced to the background level.

6.2 Specific dangerous substances

If your enterprise is characterised by gassed containers, volatile organic compounds (VOCs), a paint spraying booth, a danger of explosion, welding work, the presence of gas cylinders or wood dust, you should tick the answer “yes”. This is because, as an employer, you have a statutory duty of care to protect the health and safety of your workers. You discharge this duty of care by mapping out the risks with the aid of the following questions and assessing exposure.

The Arboportaal, a website of the Ministry of Social Affairs and Employment, provides a lot of useful information on dangerous substances.

Your enterprise is characterised by gassed containers, volatile organic compounds (VOCs), a paint spraying booth, a danger of explosion, welding work, the presence of gas cylinders or wood dust.

6.2.1 A phased plan is used to determine whether the opening or accessing of maritime containers is safe.

For each maritime container entered, a phased plan is used to determine whether these can be ‘safely’ opened and entered. ‘Safely’ in this phased plan means that the risk of suffocation, dazing, poisoning, fire or explosion is minimal. The phased plan consists of:

- preliminary research;
- gas measurement;
- measures;
- contingencies;
- data recording.

Steps 1 and 2 lead to the safe opening of a maritime container with, where appropriate, the use of personal protective equipment (PPE), and steps 3 and 4 lead to safe entry of the maritime container. Where a maritime container is opened for ventilation purposes, the recipient or his representative indicates in writing what personal protective equipment should be used. If the

maritime container is ‘safe’ to enter, a written ‘free to enter certificate’ is issued. This is signed by the recipient or his representative. The ‘free to enter certificate’ is limited in time.

More information on gassed maritime containers and safe working is available on www.gezondtransport.nl and in an Inspectorate SZW brochure entitled “Work risks associated with handling containers”.

Measure

The recipient of maritime containers investigates whether there are dangerous gases in maritime containers and, if so, takes steps to ensure that it becomes ‘safe’ to open and enter the maritime container (see www.gezondtransport.nl). This investigation consists of a preliminary examination and measurements, with these measurements being taken by a trained gas metering expert. This expert determines whether the concentration of the gas measured is above or below the limit value and whether ventilation is needed. The data from the investigation and the measures are recorded in writing and kept. The recipient of the maritime containers and the carrier determine how the enterprise handles dangerous gases in maritime containers. A business procedure sets out such aspects as tasks, responsibilities and powers. The carrier makes arrangements with its customer or drivers to open and enter the maritime containers, and, where applicable, under what conditions. The recipient and the carrier inform their employees of the dangers associated with opening and entering maritime containers and indicate how to approach this in daily practice. The recipient provides for effective help in the event of an emergency when opening and entering the maritime container.

6.2.2 Steps have been taken to control exposure to volatile organic compounds.

Volatile organic compounds (VOCs) are released during the evaporation of petroleum products and other organic substances and on incomplete combustion. Examples are petrol, paint, inks, adhesives, solvents and cleaning agents, degreasing agents, floor polish, cosmetics and nail varnish remover.

Products containing VOCs may be flammable. Depending on their level of flammability, they are classified as K0, K1, K2 and K3 liquids. Owing to their high volatility, K0 liquids are the most dangerous (a high risk of fire and explosion). In addition, volatile organic compounds may also cause health complaints. Brief exposure to a high concentration of solvent may induce a stupefying effect, nausea, headache, dizziness and palpitations. The complaints often pass off rapidly after ceasing activity. Protracted exposure may induce permanent health damage, and may lead to accelerated ageing of brain function. This last disorder is known as ‘chronic painters’ syndrome’, organic psychosyndrome (OPS) or chronic toxic encephalopathy (CTE). Some solvents are harmful for reproduction.

Virtually everyone in the Netherlands is exposed to VOCs, whether or not professionally. It is estimated that for 2% of the working population, exposure at work leads to health damage unless steps are taken. Under the Working Conditions Order, replacement arrangements have in the past few years been drawn up for a number of sectors or activities, e.g. paints and adhesives in indoor situations. A number of health and safety catalogues have incorporated measures to reduce or prevent exposure to VOCs. The graphics industry and the metallurgical industry (Verbetercheck Oplosmiddelen metalektro) have developed tools for effectively controlling VOC exposure. These measures are effective where exposure remains below the limit values.

Measure 1

Measures on the recipient's premises: 1. Personal protective equipment (PPE). This means respiratory protective equipment and protective clothing including gloves. This prevents as far as possible any inhalation of VOCs and skin contact. It is important to choose the appropriate PPE, use it correctly, and replace it in good time with new equipment.

Measure 2

Measures concerning the transfer pathway: 1. Ventilation, vapour return. 2. Avoid exposure

through the use of, for example, robots, remote control, working in overpressure cabins by, say, crane drivers.

Measure 3

Source measures: 1. Replacement of the material with less harmful material. 2. Reduction of exposure from, for example, combustion. 3. Isolation of sources or production of closed systems.

Measure 4

Arrange for control measures. And assume the substance posing the greatest potential risk. If this is controlled adequately, this will also apply to the other substances used in a particular location. Control measures must be included in an Action Plan and be implemented in accordance with the occupational hygiene strategy (http://www.arboportaal.nl/onderwerpen/arbowet--en--regelgeving/arbozorg/arbeidshygienische-strategie.html).

6.2.3 Solvent-free products are used during paint spraying.

The inhalation of solvent fumes in the workplace has declined sharply in the last few years, partly as a result of the use of water-based paints. Solvent fumes may impair the nervous system and the brain, in a syndrome known as organic psychosyndrome (OPS). In addition, thinners, paint and skin cleaners used by painters and sprayers may damage the skin or cause hypersensitivity. For detailed information, see Health and Safety Information Sheet AI-19 “Industrial paint processing” (available for a charge from www.sdu.nl).

Arrange for the appropriate personal protective equipment. Use filter type A for protection against solvents, which is recognisable by a brown band or sticker around the filter. Filter type P with a white band provides dust protection. Some suppliers provide combination filters that protect against multiple gases.

The various kinds of gas and particle filters may also be combined, by putting together two exchangeable filters or together forming part of the mask (filtering half-mask). The filter then has a brown and a white band.

The use of combination filters generally shortens the time for which they offer protection.

Measure

- Arrange appropriate skin cleaning products, running water, soap, clean dry cloths and hand cream or ointment.
- Provide information on the risks and the precautions to be taken.
- Ensure that the personal protective equipment quoted in the Safety Information Sheet is in place. There should be a minimum of a half-face mask with the correct filter cartridge.

Measure

- Provide for a good safe storage point for dangerous substances; this must conform to the regulations (Series of Publications on Dangerous Substances 15).
- Provide for a good safe area for processing dangerous substances.

Measure

- Opt for the least harmful products. Use water-based products or products with a low solvent content.
- Ensure that the capacity of the extraction wall or extraction booth conforms to the regulations; air flow at the extraction wall of approx. 0.5 m/s, and approx. 0.3 - 0.4 m/s at the spraying installation.
- Arrange for the regular replacement of the extraction-wall or extraction-booth filter.

6.2.4 The preparation of paint with very light and flammable solvents takes place outside the spray booth in a suitable paint preparation area.

Exposure to paints, solvents and thinners may arise when preparing paint. This may be prevented by using less harmful substances. In addition, a mixed dosing machine may be used. Paint preparation takes place in a separate, well-ventilated area in the presence of sound localised extraction. This is required where more than 25 litres of solvent and thinner are present for preparing paint. For a detailed explanation, see Health and Safety Information Sheet AI-19 “Industrial paint processing” (available for a charge from www.sdu.nl). For further information, see www.gewoondoen.nu.

Measure 1

Paint tins are properly sealed straight after use and surplus paint tins are stored in a separate storage area.

Measure 2

In enterprises where limited quantities of paint are processed, paint preparation takes place directly in front of the spray booth or wall extractor.

Measure 3

Arrange for a good safe area for processing dangerous substances.

6.2.5 Atex guidelines 137 are followed.

Under new ATEX regulations, measures to prevent gas and dust explosions must be taken at all workplaces with effect from 1 July 2006. Flammable substances, hazardous situations and exposed workers must be appraised for this purpose. This may entail the emptying of fuel tanks and fuel lines, thus generating static electricity, hot work in connection with diesel storage and oil storage tanks, grinding, sanding and welding, and working at an elevated temperature in the environment of fuels and solvents.

Technical measures:

- “good housekeeping”: prevention of the deposition of dust < 0.1 mm on large surfaces, prevention of dust clouds, ban on smoking;
- “good housekeeping”: prevention of open pots of paint or open jerry cans of solvents, complete ban on smoking;
- extraction equipment, where necessary of explosion-proof design.

Organisational measures:

- provision of information on dangers in relation to explosion, the importance of a clean work environment, designation of the risk of a small explosion that may cause a larger explosion;
- provision of information on dangers in relation to explosion, the importance of careful handling of flammable substances, such as solvents.

The assessment of the explosion hazard can be summarised in seven questions. The first four map out potential hazardous explosive atmospheres.

Are flammable substances present?

May an explosive atmosphere arise due to adequate distribution in air?

Where may an explosive atmosphere arise?

Is there potential for the formation of a hazardous explosive atmosphere? If the answer to these questions is YES, the employer must take measures. If at least the first question is answered with a yes, the employer must draw up an explosion safety document. This may be brief and, for example, describe why there is zero chance of the formation of explosive atmospheres. The fifth question concerns prevention.

Is the formation of a hazardous explosive atmosphere effectively prevented? The last two questions provide a framework for taking measures in an explosive atmosphere.

In which danger areas may places with a hazardous atmosphere be classified?

Can the ignition of a hazardous explosive atmosphere be prevented effectively? If the answer to the last question is NO, additional measures must be taken to limit the harmful consequences of an explosion.

The Arboportaal, a website of the Ministry of Social Affairs and Employment, provides a lot of useful information on explosion safety and explosive atmospheres.

Measure

Draw up an explosion safety document assessing explosion safety and covering the following elements:

- inventory of flammable substances;
- assessment of explosion risks (ignition sources);
- technical measures;
- organisational measures;
- stipulation of responsibilities.

6.2.6 Welding work is performed in such a way that welding fumes are extracted and the welder is well equipped with regard to personal protection.

Welding fumes are harmful to health, with particles and gases being released during welding work. Large particles are discharged as welding flash; the fine particles, which you cannot see, remain suspended in the air, and form welding fumes. Welding fumes may contain a host of different substances. Precisely which substances or gases are released depends on the material to be welded, the welding process used and the additive material used. Substances on the work piece (such as degreasing agents, primer, red lead and oil) may also release harmful particulates and gases.

The inhalation of welding fumes does not generally induce health complaints, which means that health risks are often underestimated. Hoarseness, sore throat and eye irritation are examples of acute health effects you experience immediately. In the long term, welding fumes may potentially affect male fertility, while welding fumes given off by stainless steel are carcinogenic.

Limit values therefore apply both to welding fumes and to chromium compounds. The current limit value for welding fumes was cut to 1 mg/m^3 as of 31 March 2010. Other risks posed by welding are: fire and explosion hazard (welding may ignite flammable materials), UV radiation (a welder's helmet is therefore compulsory), a static work posture (to be able to see the work piece properly, you move into an impossible position), and noise (noise limits are breached during welding).

The Arboportaal, a website of the Ministry of Social Affairs and Employment, provides a lot of useful information on welding fumes.

Measure 1

- A welder's helmet or welder's goggles are always compulsory, to protect the eyes against radiation.
- Always use welding gloves.

Measure 2

Use of extraction and ventilation. Welding fumes must be extracted as close as possible to the source. Extraction is compulsory, and source extraction may be carried out in various ways. Consider welding benches or cutter's tables with extraction, or welding booths with flexible extraction arms for smaller work pieces. Also consider welding guns with built-in extraction for MIG/MAG welding. For large work pieces, mobile extraction is often the only option. The Verbetercheck Lasrook (Improvement Check for Welding Fumes) stipulates, for

each welding process and type of material, what measures should be taken in your enterprise.

Measure 3

In general, you can proceed as follows to prevent exposure to welding fumes:

- Investigate whether alternative techniques to welding that are less injurious to health are available. Consider riveting and fixing with bolts.
- Where alternative techniques are not possible, you should investigate whether a welding process giving off lower levels of welding fumes can be used. For example, replacing flux-cored wire welding with MAG welding.

Measure 4

The Verbetercheck Lasrook (Improvement Check for Welding Fumes) has been drawn up to limit the inhalation of welding fumes. If you want to assess whether you meet the industry standard, use the Verbetercheck Lasrook. It sets out precisely how exposure to welding fumes can be prevented or controlled.

6.2.7 Gas cylinders are stored correctly.

Gas cylinders can explode and so must be stored safely to prevent any danger of explosion.

The storage of gas cylinders must meet the following requirements:

- Gas cylinders must be kept upright and secured to prevent them falling over. This can be done, for example, by securing them to the wall with the aid of a chain or clamp.
- Full and empty gas cylinders should be stored separately. It is recommended to indicate with a small sign where full and empty cylinders should be stored.
- The cylinders should not be exposed to direct sunlight and must be protected against the weather. This means that cylinders stored outside must at the very least stand under a lean-to.
- It is also important that (gas) cylinders be stored below 50°C in a well-ventilated area. The ingress of moisture into the cylinder must be prevented. Therefore always close the valve and prevent reflux into the cylinder. Nitrogen is not combustible, but fire may cause the cylinder to crack or explode.

Measure

When checking gas cylinder storage, ensure the following:

- Gas cylinders must be kept upright and secured to prevent them falling over. This can be done, for example, by securing them to the wall with the aid of a chain or clamp.
- Full and empty gas cylinders should be stored separately. It is recommended to indicate with a small sign where full and empty cylinders should be stored.
- The cylinders should not be exposed to direct sunlight and must be protected against the weather. This means that cylinders stored outside must at the very least stand under a lean-to. It is also important that (gas) cylinders be stored below 50°C in a well-ventilated area. The ingress of moisture into the cylinder must be prevented. Therefore always close the valve and prevent reflux into the cylinder. Nitrogen is not combustible, but fire may cause the cylinder to crack or explode.

6.2.8 Gas cylinders are used safely.

Gas cylinders can explode if used incorrectly. You must therefore take various preventive measures. Dangerous substances may also be released during welding work.

Measure

There is a risk of asphyxiation when working with high levels of nitrogen. Ensure adequate

ventilation when working with nitrogen. The danger of asphyxiation is often overlooked and should be given full attention when training and briefing workers; for the commonest welding work, at least local extraction is required. The recommended capacity is 0.4 m^3/s per extractor. There must be a facility for supplying this air stream. Shut off cylinders during stoppages in work; cylinders and valves must be free from oil and grease.

Measure

In the case of acetylene cylinders, an approved flame extinguisher should be fitted to the pressure controller. This is to prevent the flame penetrating the pressure controller or even the cylinder in the event of backfire.

Measure

Pay attention to the following aspects when working with gas cylinders:

- Ensure that gas and oxygen cylinders are kept separate (with a steel plate between them). They must be kept upright and be secured to prevent them falling over.
- Gas and oxygen cylinders must be fitted with shut-off valves.
- Gas cylinders must be fitted with a reducing valve. Reducing valves serve to set a desired pressure or to reduce a cylinder pressure to the working pressure.

6.2.9 Measures have been taken to meet wood dust exposure requirements.

Wood dust is produced during mechanical wood-working. Cleaning and clearing work also raises a lot of this dust. Wood dust from primarily (hard)wood can cause cancer of the nose and sinuses.

The statutory limit value of 2 mg/m^3 per 8-hour working day for timber from angiosperms/hardwood is achievable through a combination of measures aimed at wood-working, the working environment and the work organisation.

Conceivable examples of such measures could include the use of different work preparation, different procedures, different materials and different cleaning methods. In particular, priority is given to source measures and industrial extraction.

More information can be found in the A sheet Building Site Wood Dust and at www.stofvrijwerken.nl.

A useful way of cutting exposure to wood dust is to extract it and ban the blowing-away of the dust with compressed air.

Measure 1

Organisational measures:

- Provide instruction and/or training on the influence of wood dust and what preventive measures are possible.
- Clean the working environment after activities raising large volumes of dust have been completed. Always do this at the end of each day.
- Try as far as possible to separate dusty activities and low-dust/dust-free activities. This confines the dust to certain parts of the work space and prevents any spread to the rest of the work space. It also prevents ‘bystanders’ from being exposed to wood dust.
- Ensure good maintenance of the extraction system and other gear. Repair damage to the hoses immediately. Replace the filters and/or dust bags in a timely fashion.
- Purchase only equipment and hand tools with extraction facilities. Ensure that the extraction equipment has an inspected filter.
- Ask the supplier about the specifications for extraction, air volumes and pressure loss, and always ask for a guarantee.

- Arrange for an expert to check regularly whether the machinery is being handled properly and whether dust production indeed remains within prescribed limits. The safety, health and welfare service can provide support on this.
- Correct use and regular maintenance of the extraction system is important for proper operation.

Measure 2

Wood dust extraction:

- Use the dust caps fitted to machinery.
- Connect all permanently deployed wood-working equipment to a central extractor. The filter medium must conform to filter class M or H for hardwood dust. Mobile extractors must be fitted with filters with a protection level M or H for carcinogenic wood dust.
- Ensure good ventilation of the work space.
- Clean with a dust extractor. Use a good industrial dust extractor for this. If the floor is swept, moisten this first or use a sweeping powder.
- Where hand tools with integrated extraction are nevertheless used, use a paper dust bag.

Measure 3

Technical measures, approach at source:

- Check whether materials that do not produce wood dust could be used. Bear in mind that other problems might then arise.
- Use clean material. This means plates, planks and work pieces that have previously been cleaned or blown clean.
- Choosing the right tools may prevent or reduce the formation of wood dust.
- Try as far as possible to have material delivered in the correct size.
- Use sharp tools so that less fine dust is produced.

6.2.10 At least P2 filters are always used for respiratory protection.

For the purposes of respiratory protection, use a mask with at least a P2 filter for dusty activities and for clearing or cleaning work. This affords adequate protection where dust concentrations are not already too high and for dusty activities of short duration. Filters below grade P2 may not be used in the wood-working industry.

Where dust concentrations are very high and for protracted activities, only a half-face mask with a P2 filter may afford adequate protection.

Measure

- Use respiratory protection (mask with P2 filter) in the case of dusty activities and clearing or cleaning work. This affords adequate protection where dust concentrations are not already too high and for dusty activities of short duration.
- Where dust concentrations are very high and/or for protracted activities, only a half-face mask with a P2 filter or a blown helmet affords adequate protection.

6.2.11 Recirculated air contains less than 0.2 mg hardwood dust per mg/m^3 air.

Recirculated air may contain wood dust provided that the employer can demonstrate that the concentration of wood dust does not exceed 10% of the limit value. This equates to 0.2 mg hardwood dust per mg/m^3 air.

Measure

Ensure that the concentration of wood dust demonstrably does not exceed 10% of the limit value. This equates to 0.2 mg hardwood dust per mg/m^3 air. Arrange for an expert to check regularly whether recirculation is being handled properly and whether dust production indeed remains within the limits. The safety, health and welfare service may provide support on this.

7 Environmental factors

This module deals with the following:

- noise;
- climate;
- daylight/lighting;
- radiation;
- working under overpressure.

The following questions deal with the requirements governing your enterprise in connection with environmental factors. The space and environment within which work takes place and the equipment used are environmental factors that may affect the body. A cold, damp workplace is not pleasant to work in and may cause health complaints, in just the same way as an excessively hot workplace, or a space with little access to daylight. Other environmental factors may also be harmful for the body, e.g. machinery that produces excessive noise or a certain kind of radiation.

The health and safety catalogue referred to is the general health and safety catalogue of MKB NL and AWVN.

The Arboportaal, a website of the Ministry of Social Affairs and Employment, provides a lot of useful information on environmental factors.

7.1 Harmful noise

Only choose the answer “no” if, throughout the enterprise and for all kinds of activities, it is possible to speak to one another at a distance of 1 metre without raising one’s voice. This is a rule of thumb that makes it possible to estimate whether the noise level is permissible: the noise level is too high (harmful) if, at a distance of 1 metre, one has to raise one’s voice to ensure mutual intelligibility.

Noise is too loud if it makes you temporarily, or permanently, deaf.

Steel grinding, the use of a pneumatic spanner and the mechanical sawing of aluminium generate excessive noise. The average noise levels (in dB(A)) for a number of activities within enterprises are as follows:

- powered hand tools: 85-95;
- aluminium cross-cut saw: 110;
- pneumatic spanner: 90-100;
- portable grinding machine: 95-100;
- autogenous welding: 86-93;
- electric welding: 75-82;
- de-burring: 90-100;
- paint spraying: 75-85-81;
- high-pressure spraying (water): 90-100.

If there are any major non-conforming noise sources in the enterprise, an expert should be called into to assess the situation. The Arboportaal, a website of the Ministry of Social Affairs and Employment, provides a lot of useful information on harmful noise.

Noise that can damage hearing is present within the enterprise.

7.1.1 In places where there is noise (harmful sound), measures are taken to reduce noise and/or protect hearing.

Measures are taken in accordance with the ‘occupational hygiene strategy’. This strategy describes the order of importance of the measures:

- Measures at source: different tools or different procedures;
- Measures on the transfer pathway: sound absorption or sound shields;
- Organisational measures: for example, separation of noisy work and quiet work. Limiting the number of people exposed to harmful sound;
- Personal protective equipment: Wearing ear defenders.

The Arboportaal, a website of the Ministry of Social Affairs and Employment, provides a lot of useful information on harmful noise.

Measure 1

Provide suitable hearing protection for all workers who come into contact with noise (harmful sound). No-one may gain entry to places where there is noise (harmful sound) without hearing protection. At 85 dB(A) and above, the worker is legally required to wear ear defenders. There are various kinds of ear defenders, with by far the best being otoplastic devices. These are individually made to measure, make it possible to carry on conversing with other people because they filter out only the harmful frequencies, and are best at damping noise. We therefore urge opting for ear defenders of this kind, where they ultimately prove necessary. Set out in writing an obligation to wear ear defenders within the enterprise.

Measure 2

Take measures to limit noise, initially as far as possible at source, by:

- developing quieter production methods;
- housing machinery in sound-deadening casings;
- arranging for personnel to work in sound-deadening booths;
- using well-maintained hardware;
- limiting the duration of exposure as far as possible. Where the above measures are not (yet) possible or have insufficient effect, ear defenders must be used.

7.1.2 In workplaces where there is noise (harmful sound), this is indicated.

This is indicated by a round blue mandatory sign stipulating the use of noise protection.

Measure

In workplaces where there is noise (harmful sound), put up a round blue sign stipulating the use of noise protection.

7.1.3 Employees exposed to noise are briefed on the risks of noise and the correct use of ear defenders.

It is obligatory to brief your workers properly about:

- the development of hearing loss or deafness due to excessive noise,
- limit values for noise,
- the correct use of ear defenders and safe working methods to avoid (exposure to) noise.

Measure

Ensure that your workers are briefed about the risks of noise levels above 80 dB and measures taken to prevent the occupational disease of noise-induced hearing loss.

7.2 Climate and ventilation

Only choose the answer “no” if workers in the enterprise have regular complaints about the climate in summer or winter and the ventilation. A good climate is needed to function effectively. This entails not only the temperature but also, for example, air humidity and the air speed (draughts).

Owing to the nature of the work, it is, however, not always possible to create a comfortable and optimal climate, e.g. in workplaces in the steel and glass industry, in the case of work in large hangars and in cooling and freezing units, or work in the open air. Exposure to an unfavourable climate must remain limited in these circumstances. The Arboportaal, a website of the Ministry of Social Affairs and Employment, provides a lot of useful information on climate.

There are regular complaints about the climate and ventilation.

7.2.1 The temperature at the workplace is good; workers are dissatisfied with this temperature.

The term ‘climate’ is generally understood to mean the temperature of people’s environment. Climates can in principle be classified as moderate, warm or cold. When working in extremely hot and cold situations, there is a risk of health problems. In cold situations, the human body tries to maintain a balance via the metabolism, with the ‘core temperature’ (the internal body temperature) remaining at 37˚C. A drop in the core temperature by more than half a degree may disturb body functions. At temperatures below this, hypothermia sets in (at less than 35˚C), and cardiac arrest may eventually occur.

Working in a hot environment may disrupt the heat balance of people. If more heat is produced than is removed, heat storage is said to occur. Heat storage is not only dependent on the ambient temperature but may also occur where the wearing of thermally insulating clothing is necessary.

When working in a moderate climate, and this occurs in virtually all workplaces and offices, there is no risk of health damage, but more risk of nuisance, for example from draughts. Draught nuisance may affect workers in enterprises when doors are open. The adverse impact of such nuisance will mainly manifest itself in reduced staff productivity.

The term ‘climate’ should in this context be understood to mean the temperature of people’s environment. This is determined by the following factors:

- air temperature;
- radiant heat;
- air humidity;
- air movement (speed).

People’s experience of the climate further depends on:

- clothing worn;
- physical activity.

Table 2.1 Target values for room temperature in summer and winter for two different activity levels (based on NEN-EN-ISO 7730)

Within these temperature limits, a large proportion of those present find the climate to be comfortable. Personal influencing of temperature, for example by being able to raise or lower the temperature with the aid of a thermostat, further improves staff satisfaction with the climate. The Arboportaal, a website of the Ministry of Social Affairs and Employment, provides a lot of useful information on cold and heat.

Measure 1

The following measures can protect workers against heat storage in the workplace:

- Provide the fewest possible heat-producing devices (it is usually work equipment that uses a lot of energy).
- Switch off such equipment as far as possible.
- Insulate such equipment very well to prevent heat emission or put it in a separate area.
- Remove warm air via ventilation.
- Replace light bulbs with low-energy LED lighting.
- Use shading devices (external shading is more effective than internal shading).
- Increase the air speed using fans.
- Avoid or reduce severe physical exertion, or postpone it.
- Make flat roofs wet (and keep them wet).
- Introduce a work schedule suited to a tropical climate.
- Shorten working hours.
- Introduce extra breaks.
- Wear airy dry clothing, preferably made of cotton.
- Drink a lot (no alcohol).
- Keep up workers' salt levels. In the event of health complaints, it is advisable to seek advice from an occupational health officer for working in the heat.

Measure 2

Where working at a high temperature cannot be prevented, the employer must:

- investigate whether working in the heat is actually necessary;
- shorten the duration of activities performed in the heat;
- alternative activities with work in a cooler location;
- offer cold drinks;
- make available personal protective equipment (such as caps to ward off the sun, cotton shirts).

Measure 3

Measures to be taken in the cold:

- Screen the workplace from cold, wind or rain.
- Allow workers to take breaks in a warm area.
- Provide hot drinks.
- Provide tools fitted with insulating material.
- Do not leave tools in a cold place (mainly at night).
- Provide heat packs. A heat pack is a heat source which generates heat via a chemical reaction and which you can put in your bag.

Measure 4

If a low temperature cannot be avoided, the employer must:

- make available personal protective equipment (such as thermal undergarments and all-weather coats, gloves, etc.);

- shorten the duration of activities;
- alternate activities with work in a warm location.

7.2.2 Workplaces are free from draughts.

Draughts are a major source of complaint, and concern the combination of air speed, air temperature and the nature of the air flow (level of turbulence). As the air temperature falls, a particular air speed is experienced more quickly as a draught. It also depends on the individual whether an air stream is experienced as a draught. With standing work, draughts generally pose less of a nuisance; the average air speed may thus be higher in such environments than in office workplaces without this inconveniencing workers.

Employers must always prevent an excessively hot or excessively cold indoor climate from troubling their staff. Draught is one of the four factors that determine how the indoor climate is experienced. Specifically, the Health and Safety Decree states, in relation to draughts, that air conditioning systems must function in such a way that workers are not exposed to unpleasant draughts.

The Arboportaal, a website of the Ministry of Social Affairs and Employment, provides a lot of useful information on draughts.

Measure

The following arrangements would help to limit draughts in the workplace as far as possible:

- Ensure that the temperature between two adjacent areas does not differ.
- Do not arrange for workplaces to abut against windows, and certainly not if there is no insulating glass.
- Affix draught excluders to doors and windows that do not close properly.
- Install an extra swing door where doors are frequently opened (for example in a shop).
- Try to keep large doors needed for transport closed as far as possible.
- A door for people as part of a large hangar door prevents the large door needlessly remaining open a lot.
- Where a worker works in a draught, check whether it is possible to move to a less draughty spot.

7.2.3 There is inadequate ventilation in the space, whether via grilles or windows or with the aid of a fan, and these facilities are sufficiently controllable.

Ventilation may be mechanical (fan and, where appropriate, a distribution channel) or natural (windows or grilles). Doors are not regarded as permanent natural ventilation facilities. However, they may be useful in eliminating excess heat in the summer.

Ventilation must be sufficiently adjustable to adapt to changing needs, without using more energy than is necessary. Contaminated air may induce a range of health complaints, with the common ones being as follows:

- airway disorders/asthma;
- irritation of the eyes and skin;
- allergic reactions;
- headache;
- concentration problems.

The Arboportaal, a website of the Ministry of Social Affairs and Employment, provides a lot of useful information on ventilation.

Measure 1

Besides ventilation, it is also important to clean the workplace regularly. A clean workplace improves air quality. You can do this by:

- ensuring that the workplace is cleaned regularly
- keeping the office as empty as possible (clean desk policy) to allow dust removal
- using leak-tight cabinets
- using smooth floor coverings that are easy to clean.

Measure 2

Provide for adequate ventilation:

- install an efficient ventilation system;
- replace dust filters in the ventilation system regularly and clean the ducts.

7.3 (Day)light and shading devices

7.3.1 There is adequate (day)light in the workplace, and incoming sunlight can be shaded.

Too much or too little light may mean that workers have an inadequate view of the work to be done. Too much light arises when the sun can shine in unhindered. Light levels may be annoyingly high when skylights have been installed or windows are high up. Good shading devices are then needed. Too little light arises, for example, in workplaces where insufficient daylight enters or there is insufficient artificial light (including where lamps are antiquated!). Examples of places with (excessively) low light levels include where installation work is performed and work under the bonnets of vehicles. On work benches, too, lighting levels may be inadequate. Particularly in workplaces where little daylight comes in or where precise working is required, the worker must be able to adjust the light level himself. Employers are obliged to provide for good lighting at work. Article 6.3 of the Working Conditions Decree states the following:

- Workplaces and link roads are lit in such a way that the light present does not endanger the health and safety of workers.
- Where possible, sufficient daylight comes into workplaces, and there are sufficient facilities for artificial lighting.
- The facilities for artificial lighting are installed in such a way as to prevent a risk of accident.
- The colour used for artificial light must not alter or influence the perception of health and safety signals (laid down under or by virtue of Part 2 of Chapter 8).
- The Arboportaal, a website of the Ministry of Social Affairs and Employment, provides a lot of useful information on (day)light.

Measure 1

The following measures ensure that workers have enough light at work and are not troubled by the light:

- Position work stations closer to the window if there are complaints about insufficient light and place them further from the window if there are complaints about reflection and blinding by too much daylight.
- Set up VDU workstations in such a way that the viewing direction is parallel to the window. This prevents workers from looking into the daylight (where their faces are looking towards the window) and means that daylight does not fall on the screen (where their backs are facing the window).

- In the case of VDU work, provide suitable shading devices that can block reflective daylight. Examples are sunshades, blinds and tinted glass.
- In the case of night work, use, where appropriate, daylight lamps or a dynamic light system that can mimic variations in sunlight effectively.
- Allow adequate rest breaks for activities performed without much daylight.

Measure 2

Effective lighting is expressed as follows:

- Lighting for orientation purposes of 10-200 lux is sufficient if the reading task is not critical.
- Where reading tasks must be performed, extra lighting of 200 - 800 lux is needed, e.g. for administrative work.
- For tasks making great demands of vision, special lighting of 800 - 3000 lux is needed, e.g. for detailed assembly work or precise colour assessment.

Measure 3

Ensure adequate (day)light in all working areas. Ensure effective shading devices, where necessary.

7.4 Radiation

Where there are sources of radiation, e.g. optical or ionising radiation or electromagnetic fields, in your enterprise, an assessment of exposure is needed to clarify compliance with limit values. An expert is needed for this, and you can ask your safety, health and welfare service for relevant information.

Optical radiation is emitted by, for example, laser equipment, ionising radiation by X-ray equipment, and electromagnetic radiation by transmission masts, transformer housings and MRI scanners.

The risks associated with long-term exposure to ultraviolet, infrared and laser light are damage to the eyes and skin. In the long run, optical radiation exposure may induce skin cancer, keratitis and cataract.

The risks associated with exposure to excessive doses of ionising radiation may bring about serious health damage owing to an increased chance of cancer.

The risks associated with electromagnetic fields are that, at high field values, tiny electrical currents warm the body and cause involuntary contractions of the muscles. A sharp rise in body temperature may lead to serious health complaints.

The Arboportaal, a website of the Ministry of Social Affairs and Employment, provides a lot of useful information on optical radiation, ionising radiation and electromagnetic fields.

Sources of radiation, such as optical radiation, ionising radiation and electromagnetic fields, are present in your enterprise.

7.4.1 Measures have been taken to prevent exposure to optical radiation.

Optical radiation is not always by definition harmful (e.g. fluorescent or halogen lighting or a laser straightedge for construction). There are various kinds of activities in which long-term exposure to ultraviolet, infrared and laser light may damage the eyes and skin, e.g. welding work, or in the case of safety measurements or servicing/maintenance of various (major) sources of optical radiation (e.g. lasers, blast furnaces, etc.).

Damage from ultraviolet and infrared radiation may manifest itself on the skin (sunburn, desiccation or burning) and in the eyes, in the case of ‘snow blindness’ or ‘welding eyes’ and dry eyes. Laser light poses the risk of damage to the retina, which is to a large extent dependent on the class of laser. In the long run, exposure to optical radiation may induce skin cancer, keratitis

and cataract. Limited exposure and good protection against optical radiation are therefore necessary.

Limit values have been laid down for exposure to artificial optical radiation in work environments. The sun is also a radiation source, but a natural one, and has therefore not been included in the relevant Directive (Directive 2006/25/EC of the European Parliament and of the Council). The optical radiation brochure provides a practical guide to this Directive.

The Arboportaal, a website of the Ministry of Social Affairs and Employment, provides a lot of useful information on optical radiation.

Measure 1

Ensure that employees are briefed on safe working with equipment that uses optical radiation.

Measure 2

Provide health and safety signs in places where work with, for example, radiation lasers is performed.

Measure 3

Ensure that limit values are observed for exposure to artificial optical radiation. These are set out in Directive 2006/25/EC of the European Parliament and of the Council. The optical radiation brochure provides a practical guide to this Directive.

7.4.2 The risks of ionising radiation have been mapped out with the aid of the Guidelines on Risk/Analysis of radiation applications.

Ionising radiation is mainly found in the healthcare sector, in which such radiation is used to take X-rays and treat cancer patients. Ionising radiation is also used in certain measuring equipment. Exposure to excessive ionising radiation doses may, however, induce serious health damage. Work with such radiation is therefore subject to strict rules.

Where ionising radiation may occur, employers must have identified the risks and organised workplaces in such a way as to minimise the danger. Enterprises using ionising radiation need authorisation or must provide notification of the appliances in certain cases.

The risks of ionising radiation can be mapped out with the aid of the Guidelines on Risk/analysis of radiation applications.

The Arboportaal, a website of the Ministry of Social Affairs and Employment, provides a lot of useful information on ionising radiation.

Measure 1

Within the enterprise, employers must take measures to protect their workers against ionising radiation as far as possible. Important measures are as follows:

- increase the distance between workers and radiation sources
- limit exposure time
- screen off radioactive substances or (X-ray) equipment
- affix warning symbols
- ensure the wearing of personal protective equipment (such as lead aprons and lead gloves)
- provide for appropriate and adequate ventilation (in the case of openly radioactive substances).

Measure 2

Ensure that the risks of ionising radiation are mapped out with the aid of the Guidelines on Risk/analysis of radiation applications.

7.4.3 Exposure to electromagnetic fields has been assessed and reviewed against the limit values.

Electromagnetic fields (MRI scans in hospitals, broadcasting stations, high-voltage installations) may have implications for workers' health. The degree to which this applies depends on frequency and field strength. At high field values, tiny electrical currents are produced that warm the body and cause involuntary contraction of the muscles. A sharp rise in body temperature may lead to serious health complaints.

High-energy electromagnetic fields are found in, for example, high-voltage substations, transformer housings, broadcasting stations and certain hospital equipment such as MRI scanners. Electrical welding and industrial heating techniques also produce increased electromagnetic fields. For young people under 18 years old, it is prohibited to work with appliances that emit electromagnetic fields. In addition, there are requirements governing the use of appliances that can emit harmful electromagnetic fields. The main points from these requirements are as follows:

- The appliances must have a sound construction and be in a good state of repair.
- The appliances are designed or screened in such a way as to prevent health damage as far as possible.
- If such screening has an inadequate effect, other measures must be taken (e.g. shortening exposure times).
- Where these measures are likewise insufficiently effective, personal protective equipment is made available.

Measure 1

Ensure that the requirements governing the use of appliances that can emit harmful electromagnetic fields are met. The main points from these requirements are as follows:

- The appliances must have a sound construction and be in a good state of repair.
- The appliances are designed or screened in such a way as to prevent health damage as far as possible.
- If such screening has an inadequate effect, other measures must be taken (e.g. shortening exposure times).
- Where these measures are likewise insufficiently effective, personal protective equipment is made available.

Measure 2

Ensure that exposure to electromagnetic fields has been assessed by an expert (e.g. via the safety, health and welfare service) and has been reviewed against the limit values.

7.5 Working under overpressure

7.5.1 Work under overpressure is performed in accordance with the rules of the Overpressure Work health and safety catalogue.

The Overpressure Work health and safety catalogue covers the performance of diving work, hyperbaric health work, caisson work and other work under overpressure and applies to all employers and workers involved in the performance of diving work, hyperbaric health work, caisson work and other work under overpressure. The health and safety catalogue does not, however, apply to diving work performed by the fire service.

This health and safety catalogue, which has been drawn up by CNV Vakmensen, the Dutch Ministry of Defence, the NDC, Nautilus International, the National Diving Centre, the Netherlands Association of Professional Divers, the Dutch Zoo Federation, the Dutch Police, the caisson sector and the Dutch Association of Hyperbaric Health, specifies as far as possible the risks that may occur in connection with the performance of diving work, hyperbaric health work, caisson

work and other work under overpressure. For all these risks, the catalogue (www.arbocataloguswoo.nl) specifies the minimum control measures an employer and worker must take to manage these risks.

There is a special sector brochure for diving work issued by the Inspectorate SZW.

Measure

Perform the minimum control measures in accordance with the Overpressure Work health and safety catalogue (www.arbocataloguswoo.nl). This health and safety catalogue specifies as far as possible the risks that may occur in connection with the performance of diving work, hyperbaric health work, caisson work and other work under overpressure. For all these risks, the catalogue specifies the minimum control measures an employer and worker must take to manage these risks.

8 Machine safety

This module deals with the following:

- CE labelling;
- Protective devices, safety devices, emergency shutdown devices;
- Maintenance and verification of work equipment;
- Briefing and instruction on the use of work equipment;
- Hoisting and lifting gear;
- Conveyances.

The following questions deal with the requirements governing your enterprise in connection with machine safety. The health and safety catalogue referred to is the general health and safety catalogue of MKB NL and AWVN. The Arboportaal (www.arboportaal.nl), a website of the Ministry of Social Affairs and Employment, provides a lot of useful information on machine safety.

8.1 Presence of machinery, conveyances, hoisting and lifting gear

Enterprises use a wide range of appliances, machinery and tools. Risks are associated with working with machinery, including:

- wedging;
- being struck by moving parts;
- contact with hot components;
- cutting.

A lot of accidents happen with machinery. It is therefore very important to ensure that your machinery is both safe and safe to work with. The Arboportaal (www.arboportaal.nl), a website of the Ministry of Social Affairs and Employment, provides a lot of useful information on safe working. For solutions and aids relating to machine safety, see the health and safety catalogue.

Machinery, conveyances or hoisting and lifting gear are used.

8.1.1 All machinery and tools bear CE labelling.

CE labelling is a European verification mark. Machinery, equipment and tools with this verification mark meet a number of minimum safety requirements. Any machine built after 1 January 1995 is required to bear CE labelling. Older machines do not need to have CE labelling, but you should assess whether such machinery is safe and conforms to the latest technological developments. This machinery must conform to the Work Equipment Directive. You may perform this assessment yourself. Inspection lists for this are contained in various work catalogues (www.5xbeter.nl, www.arbomobiel.nl or the Work Equipment Manual published by Arbouw, Harderwijk (can be downloaded free of charge)). Alternatively, you can arrange for this work to be contracted out.

Note: if you yourself put together a machine or tool from two or more CE-verified machines, tools or appliances, the newly assembled machine should again undergo CE verification! This also applies where radical changes are made, e.g. increasing the speed, automating product input or widening the machine. The machine is then regarded as a new machine, and the (old) CE labelling then expires.

Anyone who makes such modifications is in breach of the rules (product regulations) and may be tackled about this. New CE labelling is in principle unnecessary in the case of minor modifications that improve safety, such as the fitting of screens and/or an (extra) emergency shutdown device. If you are in any doubt as to whether the modification is suitable for the machine, get in contact with a safety expert.

Measure

Make available CE-labelled machinery and appliances if purchased after 1995. Older machinery does not need CE labelling, but you should assess whether such machinery is safe and conforms to the latest technological developments. This machinery must conform to the Working Equipment Directive, and you may perform the assessment yourself. Inspection lists for this are contained in various work catalogues (www.5xbeter.nl, www.arbomobiel.nl or the Work Equipment Manual published by Arbouw, Harderwijk (can be downloaded free of charge)).

8.1.2 Second-hand, self-adapted or self-developed machinery conforms to the certification obligations of the Commodities Act.

If you yourself develop a machine or radically modify an (existing), you are, in addition to being an employer, also a machine manufacturer and must fulfil the certification requirements of the Commodities Act. Note: the foregoing also applies to the coupling and/or further assembly of a machine (even where individually CE-labelled). This entails the following:

If you have built a machine yourself after 1 January 1995, you must undergo full certification.

If you have radically modified a machine after 1 January 1995, you must, in consultation with the original manufacturer, provide for modification of the CE labelling or independently undergo full certification as a manufacturer.

If you have imported a machine from a country outside Europe into the European Economic Area (EEA) after 1 January 1995, the provisions of both the Working Conditions Decree and the Machinery (Commodities Act) Decree apply. For second-hand machinery, the date on which the machine was first taken into service within the EEA (or imported from outside) determines which regulations apply. The reference date is also 1 January 1995 for this.

Measure

Ensure that, if you yourself develop machinery or radically modify (existing) machinery, you meet the certification requirements of the Commodities Act. Note: the foregoing also applies to the connection and/or further assembly of a machine (even where individually CE-labelled). This means the following:

- If you have built a machine yourself after 1 January 1995, you must undergo full certification.
- If you have radically modified a machine after 1 January 1995, you must, in consultation with the original manufacturer, arrange for modification of the CE labelling or independently undergo full certification as a manufacturer.
- If you have imported a machine from a country outside Europe into the European Economic Area (EEA) after 1 January 1995, the provisions of both the Working Conditions Decree and the Machinery (Commodities Act) Decree apply. For second-hand machinery, the date on which the machine was first taken into service within the EEA (or imported from outside) determines which regulations apply. See www.cenorm.nl: standard information from the European Commission.

8.1.3 The moving parts of machinery are adequately screened or protected.

Research by the Inspectorate SZW repeatedly shows that machinery in enterprises is insufficiently safe. This is generally because the screens have been removed, which means that the moving parts of machinery are not or inadequately screened. Older machines, dating from before 1995, have also not been adapted to the latest safety technology. Provide dangerous points on machinery, e.g. moving parts, sharp knives, press movements, etc., with screens, protective caps, two-hand controls, remote control, mobile screening, laser protection, etc.

If you are in any doubt as to whether the screens are suitable for the machine, contact a safety expert. Where the protective devices have been removed, you should put them back on immediately!

For more information on safety facilities and protective devices for machinery, see the health and safety catalogue.

Measure

Ensure that screens have been fitted to the machinery to screen or protect against moving parts, sharp knives, press movements, etc. Old machinery must also conform to the latest safety technology and, where appropriate, be adapted with screens. For more information on safety facilities and protection for machinery, see the health and safety catalogue.

8.1.4 Machinery is fitted with a red emergency shutdown device that shuts off the power directly.

The emergency shutdown device must:

- be red against a yellow background;
- shut off the power immediately;
- be directly accessible;
- depending on the type of machine, immediately shut off the power or shut down the machine. In the case of some machines, the machine should remain under power in order to return the parts posing a danger to a safe position.

There are emergency shutdown devices that power down the machine and those that allow voltage on the machine and then enable the latter to be placed in a safe state.

Emergency shutdown device Category 0

Uncontrolled shutdown. The power supply to the drive system(s) of the machine must be shut down immediately (mechanical separation or disconnection is also allowed). Braking may be necessary. A category 0 emergency shutdown device may only be equipped with electromechanical components fitted with fixed wiring. Operation may not be dependent on electronic equipment.

Emergency shutdown device Category 1

Controlled shutdown. The energy supply to the drive system(s) of the machine remains in place in order to be able to perform the shutdown using it. The energy supply is then shut off. The energy supply to the drive system(s) of the machine is switched off with electromechanical components. Operation of the emergency shutdown device must avert an immediately impending or dangerous situation. For information on the emergency shutdown device, see the health and safety catalogue.

Measure

Ensure that machinery is fitted with a red emergency shutdown device that cuts off the power directly.

8.1.5 The machine is fitted with a zero-voltage protective device.

The zero-voltage protective device ensures that the machine does not automatically come into operation after a power failure. If in doubt, you can test whether the zero-voltage protective device functions properly. This facility is present as standard on a CE-labelled machine. The machine may also be connected to a central zero-voltage protective device. Test: Make the machine voltage-free by using a trigger outside the machine, while the machine is in the on position.

This shuts down the machine.

Then reapply the voltages. The machine must not now start up by itself.

Measure

Ensure that the machine is fitted with a zero-voltage protective device.

8.1.6 Machinery and tools are verified annually.

Checks, inspections and verifications. Machinery and tools must be verified annually. Sometimes you may do this yourself, which we refer to as inspections; in special cases, you have to arrange for verification by people competent to carry this out. To see what machinery and tools you are allowed to inspect yourself, you may consult the information in the health and safety catalogue.

Besides verifications or inspections, users must, prior to any use, check whether the machinery and appliances still meet the requirements. Inspection lists for this are also contained in various health and safety catalogues: www.5xbeter.nl, www.arbomobiel.nl or the Work Equipment Manual published by Arbouw, Harderwijk (can be downloaded free of charge).

Measure

Ensure that machinery and tools are verified or inspected annually. Useful inspection lists and checklists for this purpose can be found in various health and safety catalogues: www.5xbeter.nl, www.arbomobiel.nl or the Work Equipment Manual published by Arbouw, Harderwijk (can be downloaded free of charge).

8.1.7 All machinery, appliances and tools are maintained periodically and are thus in a good state of repair.

A large number of installations and items of equipment in your enterprise must meet statutory requirements. Your enterprise must systematically pay attention to machinery, appliances and hand tools. A maintenance log available for inspection by workers and the Inspectorate SZW must be available for all machinery. The maintenance log may consist of:

- a CE declaration or declaration of conformity;
- the instructions for use;
- the maintenance schedules and other descriptions;
- the supplier’s documents;
- the checked-off purchase list(s);
- acceptance list(s);
- the inspection lists and/or verification lists.

A copy of the latest checklist, verification list and/or inspection list may be kept at work. In this event, the owner of the work equipment continues to manage the maintenance log.

For information on good maintenance, see the health and safety catalogue.

Measure

Conclude maintenance contracts with installers or other specialist enterprises or ensure that you inspect the machinery yourself in a demonstrable manner by means of inspection lists. A maintenance log available for inspection by workers and the Inspectorate SZW must be available for all machinery. Draw up a concise inventory for each machine. You can do this with the aid of inspection lists or safety checks. For information on good maintenance, see also the health and safety catalogue.

8.1.8 Employees have been briefed on safe working with machinery, tools and/or conveyances.

Briefing is not always sufficient to be able to work effectively with the equipment. Sound instruction on the use of the aid is needed. Sometimes additional training is also useful, e.g. the training course on ‘Safe working with fork-lift trucks’, which leads to a fork-lift truck certificate.

For more information on safety instruction, see the health and safety catalogue.

Measure

Ensure that all employees who have to use machinery are trained for this and have received proper instruction. For more information and suggestions on safety instruction, see the health and safety catalogue.

8.1.9 Machinery has clear operating instructions.

Clear operating instructions should be provided on or in the direct vicinity of machinery and hand tools. These should include, for example, clear instructions on handling the hardware and what safety measures should be taken. It should also be clearly stated, in Dutch, on the machine or hand tool what the various positions of switches entail. The employer must satisfy himself that the workers concerned (even if they have an insufficient or no command of Dutch) understand all information and instructions.

8.1.10 Maintenance, repair or cleaning of machinery is performed safely.

Machinery or hand tools need maintenance, and must sometimes be repaired or cleaned. If this is performed in an unsafe way, incidents in which people become trapped and other accidents will pose a real danger.

Work of this kind must therefore always be performed in such a way that the machinery cannot be actuated in the course of the work. This means in practice that the machine is off and has been rendered pressureless or dead. The same also applies to adjustment work.

For information on safe switch-off of the machine for maintenance purposes, see the health and safety catalogue.

Measure

Ensure that the electricity is disconnected and that nobody can reconnect it when someone is performing maintenance. This may be done with, for example, work switches and locks. Ensure that the machine is disconnected and has been rendered pressureless or dead. And safeguard disconnection using, for example, a lock on the work switches. For information on safe disconnection of the machine for maintenance purposes, see the health and safety catalogue.

8.2 Presence of conveyances, lifting and hoisting gear

Consider fork-lift trucks and other mobile equipment. Non-operated conveyances (sack truck, pallet wagon) must conform to the Work Equipment Directive. The Arboportaal (www.arboportaal.nl), a website of the Ministry of Social Affairs and Employment, provides a lot of useful information on conveyances and lifting and hoisting gear. For information on transport and logistics, see the health and safety catalogue.

Operated conveyances (such as fork-lift trucks) are used for loading and unloading goods.

8.2.1 Fork-lift trucks meet the requirements in force.

Fork-lift trucks must have:

- A safety cage to prevent objects falling on the driver in the case of trucks with a lifting height of 1.80 m or more.
- A designation of the permitted working load for three different distances because the centre of gravity may be outside the wheels.
- An end stop on the frame of the fork to prevent fork slippage.
- A mechanically operated circuit breaker on an electric truck; this is actuated automatically if the driver leaves the vehicle.
- A safety belt.

- A clearly audible hooter.

For information on the requirements that a fork-lift truck must meet, see the health and safety catalogue.

Measure

Provide CE-verified fork-lift trucks. Check whether your current fork-lift trucks meet the requirements in the explanatory notes. For information on the requirements that a fork-lift truck must meet, see the health and safety catalogue.

8.2.2 Fork-lift trucks are verified annually and used correctly.

The Working Conditions Act stipulates that an expert must verify fork-lift trucks annually. The following requirements govern the use of fork-lift trucks:

- Under no circumstances may people be carried on the fork.
- Charging of storage batteries should take place in a separate, well-ventilated area in which smoking and naked flames are prohibited.
- Tank replacement for LPG fork-lift trucks should take place outdoors.
- Only competent people with a fork-lift truck certificate drive fork-lift trucks.
- The use of diesel- and petrol-driven fork-lift trucks within buildings is not allowed owing to the exhaust gases released in this connection.

Measure 1

Ensure instruction on the use of fork-lift trucks and allow only people holding a fork-lift truck certificate to drive a fork-lift truck. For information on the requirements that fork-lift truck training must meet, see the health and safety catalogue.

Measure 2

Ensure that an expert verifies fork-lift trucks annually and maintains them periodically. And provide a log book for every fork-lift truck setting out all relevant aspects such as maintenance and verification.

8.2.3 Use of hoisting and lifting gear takes place safely.

Hoisting cranes, such as overhead cranes, are often used in industry.

Hoisting cranes should be in a good state of repair, be verified at least once a year and be exclusively operated by or under the direct supervision of trained people. Each item of hoisting/lifting gear should clearly indicate the hoisting/lifting capacity of the work equipment. In the case of heavy loads, the weight on the load must also be indicated, and it must be specified by what points the load must be lifted.

Most hall cranes are ‘floor-operated cranes’, and are operated from the work floor by means of a control panel suspended from a signal cable that may or may not be mobile with pull relief. The control panel is fitted with buttons or a “joystick” with which the various crane movements can be activated. The crane is provided with ‘height protection’ preventing the hoisting hook on the cable drum from being pulled.

Hall cranes with a maximum service load of 1 000 kg or more must be protected against overloading with the aid of a load limiter unless overloading is not expected to take place (e.g. because there will be no loads exceeding the maximum service load of the crane).

A crane log must be kept if the hoisting capacity exceeds 2 000 kg.

Measure 1

Cranes with a maximum service load of 1 000 kg or more are protected with a load limiter.

Measure 2

A crane log is kept for cranes with a hoisting capacity exceeding 2 000 kg.

Measure 3

All hoisting gear and hoisting tools are made available for verification every year under a service contract.

Measure 4

Hoisting and lifting gear clearly indicate the maximum weight that can be borne.

Measure 5

We train employees who are allowed to operate hoisting and lifting gear and let them control the hoisting and lifting gear.

8.2.4 Use of lift chains and belts, hooks and eyes takes place safely.

All hoisting gear is verified annually. Nevertheless, attention should also be paid in the meantime to the wear and tear of hoisting gear. Lift chains and belts, hooks and eyes are often used in industry and logistics. The fastening point is crucially important. In the light of the dangers that may arise, expertise in this area is required for operation.

Hoisting hooks (and suspension hooks for hoists) must be protected against lifting-out by means of a safety valve or other effective device.

Hoisting belts made of plastic fibres have less of a tendency than chains and steel cable to damage the load on contact with that load. Hoisting belts are classified by appearance into two types: ‘flat’ and ‘round’ belts. Apart from flat or round plastic hoisting belts, hoisting belts are also composed of other materials, namely steel cable and steel wire ribbon.

The usage data for hoisting belts are set out on a label affixed to the hoisting belt. The label usually states not only the maximum permitted working load of the belt but also the influence of the work load factor.

No knotting of the hoisting chains or hoisting belts is allowed.

Hoisting belts left behind by suppliers are not reused.

Measure 1

The maximum permitted load is stated on the chains and belts.

Measure 2

Chains and belts are verified and tested annually, and a certificate may be submitted.

Measure 3

Hoisting hooks and suspension hooks are protected with a safety valve.

9 Personal protective equipment and health and safety signs

This module deals with:

- personal protective equipment, including the need for, choice, availability and use of such gear;
- health and safety signs, including their presence and legibility.

The following questions deal with the requirements governing your enterprise in connection with personal protective equipment (PPE) and health and safety signs.

The point of departure for the use of personal protective equipment must always be to check first whether harmless substances or machinery that produces less noise can be used in the work. A source-based approach is the most desirable solution; personal protective equipment is the final option. This source-based approach therefore means that efforts must be made as far as possible to eliminate the problem at source.

The source-based approach or occupational hygiene strategy is as follows:

1. eliminate the source of the problem;

2. use aids;

3. apply organisational solutions;

4. employ personal protective equipment.

The Arboportaal, a website of the Ministry of Social Affairs and Employment, provides a lot of useful information on personal protective equipment and health and safety signs.

9.1 The correct personal protective equipment is used.

Each kind of work calls for its own specific personal protective equipment (PPE). Examples are:

- safety footwear in places where objects may fall or nails may be trodden on;
- respiratory protection for grinding, spraying and degreasing;
- hearing protection when working with machinery or tools;
- face shield and welding apron for welding and cutting work;
- work clothing, for example work overalls, all-weather clothing in the case of cold;
- gloves in the case of contaminating work;
- eye protection in the case of dust, spatter, grinding;
- safety jacket or clothing for roadside or outdoor work.

In relation to the handling of dangerous substances, the labelling (the ‘S phrase’) indicates whether PPE must be used. Extensive instructions can be found on the safety information sheet provided by the supplier. There are many types and varieties of PPE on the market. They must be provided on an adequate scale and must be available free of charge to at least every exposed worker. The introduction of (new) PPE should also be accompanied by proper instruction on the way in which such equipment should be worn, its maintenance and cleaning, stowage and assessment of the need for replacement. New employees should also be briefed. PPE must undergo regular checks to ensure correct operation. It is recommended always to have on hand a number of spare items of PPE. With regard to work clothing, consider comfort. To prevent snagging of a worker’s clothing, tight-fitting clothing must be worn.

First check whether the source-based approach or occupational hygiene strategy is possible. This has the following format: 1. eliminate the source of the problem; 2. use aids; 3. apply organisational solutions; 4. employ personal protective equipment.

The Arboportaal, a website of the Ministry of Social Affairs and Employment, provides a lot of useful information on personal protective equipment.

Measure

First check whether the source-based approach or occupational hygiene strategy is possible. This has the following format:

1. Eliminate the source of the problem;
2. Use aids;
3. Apply organisational solutions;
4. Employ personal protective equipment.

Then check what personal protective equipment is and remains necessary for work. The following are examples of work and personal protective equipment to be used:

- Safety footwear in places where objects may fall or nails may be trodden on;
- Respiratory protection for grinding, spraying and degreasing;
- Hearing protection when working with machinery or tools;
- Face shield and welding apron for welding and cutting work;
- Work clothing, for example work overalls, all-weather clothing in the case of cold;
- Gloves in the case of contaminating work;
- Eye protection in the case of dust, spatter, grinding;
- Safety jacket or clothing for roadside or outdoor work. The hearing protection does not have to be worn everywhere and all the time, but hearing protection will be necessary for most mechanical treatments.

9.2 Efforts are made to eliminate the need for personal protective equipment by, where possible, tackling risks at source.

Dangers to the health or safety of workers must, as far as possible, be prevented or limited at source. Where this is not possible, other measures must be taken, with measures aimed at collective protection taking precedence over measures aimed at individual protection (such as PPE). Every type of work requires its own specific personal protective equipment (PPE). Examples are: safety footwear in places where objects may fall, respiratory protection for grinding, spraying and degreasing, boots and an apron for cleaning work, face shield for grinding and high-pressure cleaning, hearing protection for sheet-metal working, grinding and the testing of engines. In relation to the handling of dangerous substances, the labelling (the ‘S phrase’) indicates whether PPE must be used. Extensive instructions can be found on the safety information sheet provided by the supplier.

There are many types and varieties of PPE on the market. They must be provided on an adequate scale and must be available free of charge to at least every exposed worker. The introduction of (new) PPE should also be accompanied by proper instruction on the way in which such equipment should be worn, its maintenance and cleaning, stowage and assessment of the need for replacement. New employees should also be briefed. PPE must undergo regular checks to ensure correct operation. It is recommended always to have on hand a number of spare items of PPE. With regard to work clothing, consider comfort. To prevent snagging of a worker’s clothing, tight-fitting clothing must be worn.

Where personal protective equipment must nevertheless be worn, therefore consider comfort.

Measure

You can tackle risks at source by endeavouring to eliminate the need for wearing PPE. This can be done, for example, by taking measures of an organisational or technical nature ensuring that workers are barely exposed, if at all. When undertaking renovation and new building and investment in machinery and tools, etc., you may also consider the use of extraction or working in a closed system, purchasing quieter machinery, the integration of sound-absorbent sheeting, etc.

9.3 Health and safety signs have been installed in the required places within the enterprise.

The following are examples of health and safety signs in workplaces.

- Pictogram “No fire, naked flame or smoking” for storage space for dangerous substances, paint-making area and paint processing area;
- Pictogram “Safety shoes” at entrance to workplace;
- Pictogram “Hearing protection” in workplace;
- Pictogram “Gloves” in workplace;
- Pictogram “Respiratory protection” at entrance to spray booth;
- Pictogram “Facial protection” in workplace;
- Pictogram “Emergency exit” at the emergency exit.

The signs should in principle be sited at a suitable height in a suitable place relative to the field of vision, whether at the entrance to the zone in which a risk exists or in the immediate vicinity of a particular risk. Put up the signs in a well-lit, readily accessible and visible place. The Arboportaal, a website of the Ministry of Social Affairs and Employment, provides a lot of useful information on health and safety signs.

All signs are set out in the Working Conditions Order on overheid.nl

Measure

In principle, site pictograms at a suitable height in a suitable place relative to the field of vision, whether at the entrance to the zone in which a risk exists or in the immediate vicinity of a particular risk. Put up the signs in a well-lit, readily accessible and visible place.

- Pictogram “No fire, naked flame or smoking” for storage space for dangerous substances, paint-making area and paint processing area;
- Pictogram “Safety shoes” at entrance to workplace;
- Pictogram “Hearing protection” in workplace;
- Pictogram “Gloves” in workplace;
- Pictogram “Respiratory protection” at entrance to spray booth;
- Pictogram “Facial protection” in workplace;
- Pictogram “Emergency exit” at the emergency exit. All signs are set out in the Working Conditions Order.

10 Occupational healthcare and organisation of work

This module deals with:

- policy on absenteeism;
- (industrial) accidents/occupational disease and notification of the Inspectorate SZW;
- tasks, responsibilities and powers (TRP);
- cooperation and consultation;
- organisation of expert assistance, including measures needed to ensure that the prevention office can perform his or her duties;
- worker access to an occupational health expert;
- information and instruction;
- supervision by management;
- worker behaviour;
- occupational health examination;
- special categories of workers (such as temporary workers, trainees, young people, pregnant women, volunteers, people of non-Dutch mother tongue, and homeworkers);
- clients, temporary work, on-site work.

The following questions deal with the requirements governing your enterprise in connection with occupational healthcare and organisation of work. The Arboportaal, a website of the Ministry of Social Affairs and Employment, provides a lot of useful information on occupational healthcare, absenteeism and reintegration.

10.1 Policy on occupational health and absenteeism

10.1.1 Arrangements have been made on how, when and to whom employees must report sick.

An example of this is an employee having to telephone in sick to his or her manager by 09:00. For an example, see the absenteeism protocol.

For more information, consult:

- the SME service desk;
- the Arboportaal, a website of the Ministry of Social Affairs and Employment.

Measure

Draw up an absenteeism protocol setting out all arrangements on health-related absenteeism and the notification of such absenteeism. Ensure that everyone is aware of these arrangements.

10.1.2 Arrangements have been made concerning the person monitoring the sick employee and how this is done.

It is known how and when to contact the sick employee, and how the employee’s return to work is regulated.

Measure

Set out explicitly in the absenteeism protocol who has what responsibilities for the monitoring of sick employees. Notify employees of the arrangements in this protocol. See the website of the UWV (http://www.uwv.nl/) for general information. For an example absenteeism protocol, see the SME service desk website.

10.1.3 Arrangements concerning monitoring of absence through sickness have been made with the safety, health and welfare service or a registered occupational health officer.

A worker is called for an absenteeism interview with the safety, health and welfare service or the occupational health officer and knows the purpose of such an interview. For more information, consult:

- the SME service desk;
- the Arboportaal, a website of the Ministry of Social Affairs and Employment.

Measure

Make arrangements with the safety, health and welfare service and/or the occupational health officer concerning organisation of the monitoring of absence through sickness. Notify employees of these arrangements.

10.1.4 A problem analysis and Action Plan are drawn up for workers who are ill for more than 6 weeks.

After 6 weeks of illness, the occupational health officer must ascertain the nature of the complaints and identify the restrictions on and scope for a return to work. The safety, health and welfare service is also required to set out in a plan what factors influence the absence from work and whether there is any dispute. The problem analysis establishes expectations for recovery and resumption of work and specifically what steps may be taken.

For more information, consult the SME service desk on what to do when a worker is sick.

Measure

Make arrangements with the occupational health officer or the safety, health and welfare service concerning obligations regarding the Eligibility for Permanent Invalidity Benefit (Restrictions) Act. The website of the UWV provides information on absence through sickness, sick pay and other obligations.

10.1.5 A reintegration plan is drawn up for workers who are sick for more than 8 weeks.

If the problem analysis carried out by the safety, health and welfare service shows that there is scope for the sick worker to return to work, the employer is obliged to drawn up a (written) Action Plan with the sick worker within two weeks. The Action Plan sets out arrangements concerning activities for recovery and resumption of work. The plan also sets out the agreed objectives and associated timescales. A case manager is appointed who ensures that the plan is implemented. In small enterprises, this is often the boss himself, supported by the occupational health officer of the safety, health and welfare service. The worker must agree with the plan, otherwise the plan is meaningless. The Action Plan must be ready no later than 8 weeks after the first day off sick and be signed by both the employee and employer. The employer is obliged to send a copy to the employee and the safety, health and welfare service. For more information, consult:

- the SME service desk;
- the Arboportaal, a website of the Ministry of Social Affairs and Employment.

Measure

Ensure that a reintegration plan is drawn up and, within this plan, monitor obligations concerning the Eligibility for Permanent Invalidity Benefit (Restrictions) Act. Make effective arrangements on this with the safety, health and welfare service or the occupational health officer. Ensure that employees are familiar with the procedures set out in the Eligibility for Permanent Invalidity Benefit (Restrictions) Act.

10.1.6 The causes of absence are examined.

Identifying the causes can help cut absenteeism.

Measure

Periodically analyse the causes of health-related absenteeism. You can best do this in consultation with the occupational health officer or other core experts and/or the safety, health and welfare service.

10.2 (Industrial) accidents/occupational disease and notification of the Inspectorate SZW

10.2.1 Accidents are recorded and the causes are not investigated.

Recording of accidents and investigation of their causes underpin the adoption of targeted measures to prevent such accidents in future.

Example Accident Form.

Measure

Draw up an accident form and record accidents with the aid of this form.

10.2.2 Accidents with serious consequences are reported immediately to the Inspectorate SZW.

You are legally obliged to report serious accidents to the Inspectorate SZW as soon as possible. An industrial accident is notifiable if the victim dies from its consequences, sustains permanent injury, or must be hospitalised. The Inspectorate SZW then investigates the accident.

The term ‘permanent injury’ should be understood to mean, among other things: amputation, blindness or chronic physical or mental complaints/trauma.

The term ‘hospitalisation’ should be understood to mean that a victim is admitted to hospital.

Outpatient treatment is therefore not regarded as hospitalisation.

You can report notifiable industrial accidents (including outside office hours) most quickly on tel. 0800 - 5151 (free of charge). You can also use the digital form. In that event, you receive confirmation of receipt by email. See www.inspectieszw.nl.

Measure

Ensure that serious accidents are always reported immediately. You can include telephone numbers and addresses for this purpose in the business emergency plan. You can also report notifiable industrial accidents most quickly (including outside office hours) on tel. 0800 - 5151 (free of charge). You can also use the digital form. In that event, you receive confirmation of receipt by email. See www.inspectieszw.nl.

10.2.3 Occupational diseases are reported by the occupational health officer.

Workers face occupational risks every day, which can lead to them becoming sick. Sickness due to work or the work situation is called ‘industrial disease’. One of the best-known industrial diseases is RSI, also known as ‘mouse arm syndrome’. Occupational health officers are obliged to report industrial diseases to the Netherlands Centre for Occupational Diseases (www.beroepsziekten.nl).

Measure

The enterprise must of course prevent the risks of occupational diseases as far as possible. This begins with gaining an understanding of the risks of the work. This RI&E is intended for this. If a worker nevertheless develops an industrial disease such as RSI, consult the occupational health officer, who must report it to the Netherlands Centre for Occupational Diseases. If an employee contracts an industrial disease, consult the safety, health and

welfare service or the occupational health officer about how the sick employee's return to work can be managed.

10.3 Tasks, responsibilities and powers

10.3.1 Jobs have a good mix of preparatory, executive and organisational tasks.

Everyone has his own qualities and needs. In general terms, however, variety at work and feeling that you are making a good contribution are important for virtually everyone. For this reason, it is appropriate to design jobs and information on work properly. This increases commitment and keeps employees alert.

Ensure that employees can see their contribution to the business and how the end result of their work is rated, and give them opportunities to prepare the work themselves and solve any problems themselves or with colleagues. There may be a great temptation, certainly if something is urgent, to have certain tasks always performed by the same people (because they are quick at them or cannot handle other activities so well). A certain level of routine work is good, but ensure adequate variety.

Measure

Design a job so that it comprises difficult and easy tasks and so that an employee can take decisions himself or in consultation with colleagues. Involve employees in the organisation of work and ask them for suggested improvements. Also give them an understanding of what they have produced each week and what the enterprise thinks of this. This avoids any underutilisation or overloading of your employees. Ensure that vulnerable groups are given specially adapted work. Examples: a pregnant woman cannot perform heavy physical work during pregnancy, and a temporary worker is given a full range of duties only after an initial period.

10.3.2 Employees can take decisions themselves on their tasks.

Employees might well like it if others have to take difficult decisions and deal with problems of implementation, but this often turns out not to deliver the best results or the greatest satisfaction. People need to be allowed to take decisions themselves if they at least feel that they have a clear enough understanding of their consequences. This provides control over their own work and provides a challenge to improve things and learn from their decisions. This promotes involvement and self-respect.

Measure

Examine per job whether employees can decide more independently on the way in which the work is performed. Where possible, delegate responsibilities and tasks.

10.3.3 Where there are problems in the performance of the work, employees have adequate scope to provide a solution.

If equipment malfunctions or gives rise to quality problems or, for example, information is lacking on the performance of an assignment, it is important to be able to solve problems as quickly as possible. Where employees are always dependent on management, other departments or external people to solve the problem, this can cause heavy work pressures. This applies, for example, where there are problems with the quality of the material delivered or the feasibility of the customers' wishes. Check whether employees quickly receive answers to their problems or, better still, enable them wherever possible to solve the problem themselves.

Measure

For example, reach definite arrangements with service engineers or the technical department about the speed with which they will rectify malfunctions and invest in regular maintenance of appliances and machinery, where malfunctions occur regularly. Besides the manager, appoint

somebody who, in the event of uncertainties or quality problems, is directly available to determine how the employee should proceed. Ensure an open working atmosphere in which employees can discuss problems.

10.3.4 Employees can count on help from colleagues.

Where employees have questions about implementation or about a malfunction or other problem, it is important that they can seek help from direct colleagues. Where this is physically not possible or relationships do not allow this, this will lead to problems. Offering help also creates a feeling of mutual value, which is essential for cooperation and involvement. Being able, whether on one's own or in consultation with management, to take the initiative to resolve problems provides a challenge and teaches employees to work responsibly and independently.

Measure 1

Give employees the scope to solve problems themselves.

Measure 2

Discuss relationships in departments where colleagues experience problems with cooperation.

Measure 3

Organise the work so that employees work in a team, in which they jointly ensure that the work proceeds smoothly and where it is possible to consult with one another.

10.3.5 It is clear to employees how they should do their work and they also have suitable resources for this.

Employees must have a clear understanding of what is expected of them. A job description lists tasks, responsibilities and powers, but cannot describe everything. They must also have sound information on how they can bring the work to a satisfactory conclusion. Clear work orders, good instructions from management or those assigning the work, and clear directions and usage instructions are then important.

In addition, it is a good idea to hold discussions several times a year between the manager and employee concerning proper performance and any difficulties they experience. This is therefore a two-way discussion! Use this to improve cooperation within the enterprise, give compliments, where possible, and shed light on any early signs of operational problems from both sides.

Measure

Several times a year hold quality consultations in which employees can indicate what is needed to be able to work better. Hold operational and performance interviews periodically.

10.3.6 The requirements that can be imposed on employees from various quarters can be combined effectively.

Ensure that employees do not end up juggling too many things: they cannot be in two places at once (e.g. manning a busy telephone while dealing with customers at the counter). Employees cannot combine the utmost accuracy with doing ten things at once or delivering the best work where it is needed 'yesterday'. A certain amount of pressure is good, but make sure that things are not incompatible. Employees must have sufficient influence over the rate of work, e.g. avoid a conveyor belt that they cannot stop or slow down.

Measure

Discuss with employees whether there are any tasks that are incompatible and re-establish with them what needs prioritisation.

10.3.7 Managers have good skills and have sufficient scope to monitor employees effectively.

Employees rate management as adequate. Every employee has his or her own needs in this respect, and managers need the right qualities to be able to deal effectively with this. Interaction between the employee and his or her manager to maintain, in a constructive manner, a good balance between workload and capacity for work is crucial to business performance. If such interaction is unsuccessful, this can provide a major source of work stress and absenteeism. Work provides the necessary pressure, and this also makes it both exciting and pleasant. This may lead to overloading if employees and management do not monitor this balance properly.

This calls for unwavering attention on the part of management. Ensure that time is regularly set aside to discuss this aspect with employees. Management must of course be able to make time available for this and have scope to make any necessary adjustments to the work. This also calls for skills that are not self-evident, for which management training may be very fruitful. A clear structure and approach for performance interviews (a progress interview to be held annually and, where necessary, between times) promotes performance in this context and reduces the risk of harm due to psychological disorders.

This calls for a positive open attitude on the part of the manager and a constructive approach to any specified problems. This is an essential part of management to ensure deployability and prevent absenteeism.

Measure

Organise training for managers on stimulating management.

10.4 Cooperation and consultation

10.4.1 Work discussions regularly deal with working conditions and absenteeism.

Regular discussion of working conditions and absenteeism means that solutions can be sought in a targeted way and allows continuous efforts to improve working conditions and prevention measures.

Measure

Make working conditions a permanent topic on the agenda for work consultation.

10.4.2 Working conditions are discussed with personnel, the personnel representation or the works council.

The Works Councils Act states that arrangements must be reached on such aspects as the following:

- the risk inventory and evaluation, the Action Plan;
- the level of expertise of prevention officers;
- the rules governing absence;
- the calling-in of the safety, health and welfare service;
- the calling-in of in-house emergency officers.

A works council is mandatory where a business has upwards of 50 workers.

Where the enterprise has been 10 and 50 workers, the employer may voluntarily set up a personnel representation. Where the majority of workers so desire, the employer must then also set up a personnel representation.

Where the enterprise has fewer than 10 workers, the employer may voluntarily set up a personnel representation.

If there is no works council or personnel representation, the workers concerned are consulted.

Measure

Involve the personnel representation or works council in:

- the risk inventory and evaluation, the Action Plan;
- the level of expertise of the prevention officer;
- the rules governing and management of absenteeism;
- the way in which support for health and safety policy is organised (customised approach or safety net scheme)
- arrangements on the calling-in of the safety, health and welfare service and other core experts;
- calling-in of in-house emergency officers.

10.5 Expert assistance

10.5.1 You call in assistance from a certified safety, health and welfare service.

Under the Working Conditions Act, you are required to enlist expert support in connection with your policy on health and safety and absenteeism. Enterprises can opt for a contract with a safety, health and welfare service (‘safety net’ scheme) or for the services of a health and safety expert (a customised scheme). Under the customised scheme, the employer himself determines how and with whom he regulates the prevention and management of absence through sickness. Nevertheless, the enterprise must have a contractual arrangement with at least one certified occupational medical officer and must follow the legal guidelines on prevention and absenteeism.

Note! You can only opt for a customised scheme if you agree this with your workers, e.g. via the collective bargaining agreement, with the works council or the personnel representation. If you do not reach agreement on this, you automatically join the safety net scheme and keep the existing contract with the safety, health and welfare service. Under both the customised and safety-net schemes, you must always call in support on:

- review and advice on the Risk Inventory and Evaluation (RI&E), including the action plan;
- management of absence through sickness;
- periodic occupational health examinations;
- pre-employment medical examinations.

In addition, a prevention officer must also be present in your enterprise.

Measure

You enlist expert support in connection with your policy on health and safety and absenteeism. Your enterprise may opt for a contract with a safety, health and welfare service (‘safety net’ scheme) or for the services of a health and safety expert (a customised scheme). Under the customised scheme, the employer himself determines how and with whom he regulates the prevention and management of absence through sickness. Nevertheless, the enterprise must have a contractual arrangement with at least one certified occupational medical officer and must follow the legal guidelines on prevention and absenteeism. In the absence of agreement at sectoral level (collective bargaining agreement) or with workers at business level (works council or personnel representation), the safety net scheme applies. This means that you must enlist the support of a safety, health and welfare service.

10.5.2 Prevention tasks concerning working conditions have been assigned to employee(s) known as prevention officers.

An employer with a maximum of 25 employees may perform the prevention tasks himself if he has sufficient expertise, experience and equipment for this. Enterprises with more than 25 workers must appoint a prevention officer. In a holding company with a number of establishments, there must be a prevention officer at establishment level. This individual performs a pivotal role on the work floor in relation to working conditions. He must be able to field questions from colleagues and provide a source of knowledge on, for example, safety in relation to equipment, dangerous substances and personal protective equipment. The prevention officer's legal tasks are as follows:

- to participate in or draw up a RI&E;
- to implement the measures arising from the Action Plan;
- to provide information, identify risks and take measures to limit those risks.

Prevention officers (the number depends on prevention tasks and the desired organisation) have the knowledge and experience, the resources and time to be able to assist management properly on prevention tasks. In this context, the prevention officers cooperate with the works council, the personnel representation or the employees concerned. The prevention officer may receive information or help in various places. Links in this RI&E have been made for this purpose in various places.

For more information, see the Arboportaal, a website of the Ministry of Social Affairs and Employment. For specific solutions, the prevention officer may consult the health and safety catalogue.

Measure

Appoint one or more prevention officers and assign them the statutory prevention duties. Ensure that everyone knows who the prevention officer is. More information can be found on the Arboportaal, a website of the Ministry of Social Affairs and Employment. For specific solutions, the prevention officer can consult the health and safety catalogue.

10.5.3 The prevention officer knows the health and safety risks in the enterprise and how to limit them.

It is important that the prevention officer(s) has/have sufficient expertise to be able to implement the specific measures arising from the Action Plan, or to arrange for this to be done. Although the law does not explicitly specify what requirements a prevention officer must meet, he or she must have at least the following skills:

- Ability to provide information and provide advice.
- Ability to recognise the best-known health and safety risks in the enterprise.
- Familiarity with scope for improvement and ability to introduce this within the enterprise.
- Ability to implement health and safety measures, or arrange for their implementation.

More information is available on the Arboportaal, a website of the Ministry of Social Affairs and Employment. For specific solutions, the prevention officer may consult the health and safety catalogue.

Measure

Ensure that the prevention officer has sufficient expertise concerning the enterprise's risks. The completed RI&E may provide guidance on this. For substantive additional support, the prevention officer may advise the employer to hire internal or external health and safety experts. You can arrange for prevention officers to follow specific training, and this is strongly recommended. Further information is available on the Arboportaal, a website of the Ministry of Social Affairs and Employment. For specific solutions, the prevention officer may consult the health and safety catalogue.

10.6 Workers' access to a work study practitioner

10.6.1 Workers may use a working conditions consultation.

During the working conditions consultation, employees may, on their own initiative, ask the certified expert or the safety, health and welfare service for advice on any health complaints they have that may be connected with their work. This also enables them to help avoid illness and allows an improvement in working conditions. Prevention officers from the enterprise in question may also make provision for the working conditions consultation.

Further information is available on the Arboportaal, a website of the Ministry of Social Affairs and Employment.

Measure

Also make arrangements concerning the availability of core experts for the working conditions consultation. Inform employees of options on this. Prevention officers from the enterprise in question may also make provision for the working conditions consultation.

10.7 Information and instruction

10.7.1 Employees regularly receive information and instruction on the (safe) performance of their work.

It has been established for each job how the work should be done and with what aids, with this investigation also covering personal protective equipment. As the employer, you should ensure that all employees, agency workers and temporary workers receive (effective) information and instruction on the following aspects once they start their job, and as frequently as necessary thereafter:

- the nature of the work and associated dangers;
- measures taken to prevent or limit dangers at work;
- the purpose, operation and use of protective devices and the use of (personal) protective equipment;
- the way in which the prevention officer, the expert assistance (e.g. safety, health and welfare service), the prevention of emergencies and accidents and the in-house emergency service are organised;
- information and instruction must be up-to-date and available in writing. Furthermore, the information should be provided verbally, e.g. via the consultation on work. To ensure good and timely information and instruction, attention must be paid to this in a structural way and a systematic approach adopted. In smaller enterprises, everything can be set up somewhat more simply than in larger enterprises. However, it is also recommended to work systematically and in accordance with an information plan.

Measure 1

Drawing up an information plan and implementing it takes time. It is a good idea to start with major risks, or for example with a department with lots of illness. The plan may be drawn up by a single individual or by a team of employees. They can together discuss in depth what the best approach would be and what aids would be needed. Sometimes information is not enough, and instruction must be given. This means rehearsing the instructions in practice. Repeating information is necessary in order to remain alert to risks at work.

Measure 2

Draw up an information plan per job. The following are the matters on which you should certainly provide information:

- Physical stress;

- Mental stress;
- Working with dangerous substances;
- Working with machinery;
- Safe working with fork-lift trucks;
- Safety of roadside breakdown services;
- Noise (harmful sound);
- In-house emergency service;
- Eligibility for Permanent Invalidity Benefit (Restrictions) Act.

10.7.2 Employees implement the enterprise's safety instructions.

The instructions are there for a reason. This means that employees must also follow them. In essence, the Working Conditions Act requires 'responsible behaviour' from your workers. This means that workers must exercise the necessary prudence and care to avoid dangers to their own and others' safety, health and welfare. In particular, your workers are required to:

- use materials, aids and personal protective equipment correctly provided that the employer has indicated this clearly;
- use correctly and not switch off protective devices that have been fitted;
- participate in information and instruction organised for them;
- report directly to the employer or the health and safety contact point (for example, the prevention officer) any dangers to health and safety;
- where necessary, assist experts appointed to assist the employer in ensuring good working conditions.

Measure

Give employees safety instructions.

10.8 Supervision by management

10.8.1 It is ensured that everyone performs his or her work properly and safely.

Management can do this, although colleagues can help one another on this. Workers are for example obliged to wear personal protective equipment (PPE) that you have made available. You should supervise the wearing of PPE. Protective devices on machinery must also not be sabotaged or removed.

10.8.2 Arrangements have been made about what to do if someone breaks the health and safety rules.

(Penalty) measures have been agreed in case someone does not discharge his or her duties properly. Following health and safety instructions is in the interest of the employee himself or herself (protection), in the interest of his or her environment, and in the interest of the employer (including liability). You may consider drawing up policy on penalties. In this regard, it is nevertheless very important that the employer first ensures good working conditions and fulfils his health and safety obligations. The Health and Safety Act stipulates what obligations the worker must fulfil, e.g. wearing the necessary personal protective equipment. The employer and employee have a joint responsibility in ensuring good working conditions. Only once these are ensured should penalty arrangements come into play.

Policy on penalties may round off health and safety arrangements only after the employer has sorted out technical and organisational matters. Specify that employees may be given penalties if

they do not do the work as agreed. Record any conduct incompatible with health and safety and include this in the annual performance interview. The SME service desk website sets out information on scope for policy on penalties. Consult personnel, the personnel representation or the works council about the approach to information, instruction and penalties because they have a right of consent to the introduction of such approaches.

In the case of hired personnel and vulnerable groups, ensure that they are clear as to the health and safety rules they must observe during their work. The applicable health and safety rules must also be known in relation to new activities. Record any conduct incompatible with health and safety and include this in the annual performance interview.

In specific cases, it is advisable to seek advice via the SME service desk.

Any imposition of penalties is a matter for the employer.

Measure 1

Consult personnel, the personnel representation or the works council about the approach to information, instruction and penalties because they have a right of consent to the introduction of such approaches. In the case of hired personnel and vulnerable groups, ensure that they are clear as to the health and safety rules they must observe during their work. The applicable health and safety rules must also be known in relation to new activities. Record any conduct incompatible with health and safety and include this in the annual performance interview.

Measure 2

You may consider drawing up policy on penalties. In this regard, it is nevertheless very important that the employer first ensures good working conditions and fulfils his health and safety obligations. Only then do penalty arrangements come into play. Policy on penalties may round off health and safety arrangements only after the employer has sorted out technical and organisational matters. Specify that employees may only be given penalties if they do not do the work as agreed. Record any conduct incompatible with health and safety and include this in the annual performance interview. The SME service desk website sets out information on scope for policy on penalties.

10.9 Occupational health examination

10.9.1 Arrangements have been made with a registered occupational health officer concerning the periodic occupational health examination.

The main aspects of absenteeism and reintegration have been dealt with in the section on ‘Arrangements on absenteeism’. This deals with the arrangements you must reach with a certified expert or safety, health and welfare service and which you set down in a contract. The occupational health examination entails employees being offered a health examination with some regularity, with this examination being connected with the risks arising during work.

The RI&E makes clear what these risks are. It follows from this that checks on RSI or work pressure are desirable if this is a risk in an enterprise.

Measure

Make arrangements with the occupational health officer or the safety, health and welfare service concerning the substance and frequency of the periodic health examination.

10.9.2 In assigning tasks, attention is paid to vulnerable groups.

‘Vulnerable groups’ should be understood to mean on-call employees, temporary workers, inexperienced employees (block or day release apprentices, newcomers and trainees), disabled people, young people under 18 years old, pregnant women and employees without a command of the Dutch language. These groups are vulnerable because they are less familiar with the rules or, owing to, say, pregnancy, are unable to do certain kinds of work. The enterprise must take account of specific risks linked to these groups of workers.

High-risk activities for pregnant women are in particular working with certain dangerous substances, lifting and working in uncomfortable positions, such as protracted office work in a seated position.

In the case of hired personnel, the enterprise must take account of the experience and knowledge needed for certain activities, such as working with specialist equipment.

Specific risks may also apply to other groups of employees, e.g. heavy physical work for older workers.

Employees without an adequate command of the Dutch language also require extra attention.

The enterprise is not allowed to arrange for young people to perform certain activities. Examples are:

- working with certain dangerous substances classed as, for example, toxic, carcinogenic or mutagenic;

- working unsupervised on dangerous installations;

- working in a workplace where the young people are exposed to sound levels of at least 85 dB(A).

An exception applies where young people perform work as part of vocational training regulated by law.

The provision of information on the risks that exist must, where necessary, be geared to these groups. You must also supervise these groups adequately.

More information is available on the Arboportaal, a website of the Ministry of Social Affairs and Employment.

Measure

- Ensure good information and instruction for these groups;
- Also ensure adequate supervision during work;
- Ensure that, when hiring personnel, the enterprise makes good arrangements on the distribution of personal protective equipment and the provision of information. Is that done by the enterprise hiring the personnel or by the temporary employment agency? Set out these arrangements in a contract. More information is provided on the Arboportaal, a website of the Ministry of Social Affairs and Employment.

10.9.3 Vulnerable groups are given extra attention on information and instruction.

Vulnerable groups should be understood to mean on-call employees, temporary workers, inexperienced employees (newcomers), disabled people, young people under 18 years old, pregnant women and employees without a command of the Dutch language. These groups are vulnerable because they are less familiar with the rules or, owing to, say pregnancy, are unable to do certain kinds of work. The provision of information applies to everyone, i.e. also to those who, for example, perform cleaning and painting work. Young people (including trainees and holiday workers) need extra attention: the information provided for them must cover at least the following aspects:

- the organisation of work in the enterprise;
- the risks of activities and associated safety measures such as the use of personal protective equipment;
- regulations governing working conditions;
- specific training;
- explanation of working conditions, promotion, medical examinations, employee participation, working hours and rest periods.

More information is available on the Arboportal, a website of the Ministry of Social Affairs and Employment.

Measure

On-call employees, temporary workers, inexperienced employees (newcomers), disabled people, young people under 18 years old, pregnant women and employees without a command of the Dutch language (including trainees and holiday workers) need extra attention: the information provided for them must cover at least the following aspects:

- the organisation of work in the enterprise;
- the risks of activities and associated safety measures such as the use of personal protective equipment;
- regulations governing working conditions;
- specific training;
- explanation of working conditions, promotion, medical examinations, employees participation, working hours and rest periods;
- for pregnant women, there are extra measures to ensure their health and safety at work.

10.9.4 Measures have been taken to enable customers, visitors, drivers, patients and children to visit the enterprise safely

If, owing to the nature of the work performed in the enterprise or in its direct vicinity, a danger may arise for the health or safety of people other than the workers, the employer must take effective measures to prevent that danger. Some situations require extra measures to guarantee the safety of, for example, customers, visitors, drivers, patients and children.

The measures that an employer takes to protect workers are certainly not always tailored or sufficient to protect people other than workers. Where there is a danger, arrangements are needed to ensure that the visit to the enterprise runs smoothly, although the existence of such danger also requires supervision of children by adults, the screening of machinery, and measures to protect visitors against noise.

You may be held liable for an accident that befalls, for example, customers, visitors, drivers, patients and children in your enterprise, including by virtue of the Working Conditions Act.

Measure

Regulations have been laid down concerning the admission of third parties (e.g. customers, visitors, drivers, patients and children). Management and workers should be conversant with these regulations.

- Hazardous areas are indicated;
- Visitors are protected from noise;
- Machinery is screened;
- Emergency exits are also marked;
- In an emergency, the customer or visitor knows what to do;
- Children are always under an adult’s direct supervision;
- Areas holding dangerous materials are closed to unauthorised persons;
- Clear traffic regulations are available for third parties.

10.10 Client, temporary agency work, work on site.

10.10.1 Employers (e.g. temporary employment agencies) of hired workers have a copy of the RI&E.

This need not be the entire RI&E, but the section to do with the hired worker's work. The employer hiring out the worker (e.g. the temporary employment agency) can in this way ensure that it sends a worker who is adequately trained. The employer hiring the worker knows that he is being given expert personnel who are easy to brief and instruct.

Measure

Give employers (e.g. temporary employment agencies) of personnel you hire a copy of the relevant parts of the RI&E.

10.10.2 A safe and healthy workplace with the customer is guaranteed for employees.

Where, in connection with activities or the supply of materials, third parties enter buildings and sites potentially posing health or safety risks that the employee does not see directly or know about, these third parties must be accompanied by a competent person. This competent person must have an adequate knowledge of the situation to determine where entry or activities are possible with and without risk.

Where employees perform activities on a client's premises for a protracted period, they shall also have a good workplace. Where the client's hardware or materials are used, it shall be ensured that they are safe. It is often awkward for employees to tackle the client about this, and so it is important that the party given the job imposes requirements when entering into the assignment.

Measure

Make sure to incorporate standard provisions in contracts, concerning protection of employees or a good workplace for employees on the client's premises. Also instruct employees on what they may require of the client to protect their own health and safety.

10.10.3 Employees are properly protected against risks that may arise on site.

Lay down responsibilities for working conditions on the client's premises in accordance with the details in the introduction.

The employer is responsible for health and safety obligations. Where an employer sends a worker, temporary worker or on-call employee to a location to perform work there, the employer is responsible for that worker's health and safety. The employer must also ensure that the worker can perform the work safely with safe materials.

Where the worker must work on site with, for example, lorries fitted with elevator platforms from the site, the employer must prepare in advance for this work being able to be performed safely.

Measure

Ensure the following basic measures:

- Incorporate standard provisions in contracts, concerning protection of employees or a good workplace for employees on the client's premises.
- Instruct employees on what they may require of the client to protect their health and safety.
- Give employees who perform work on clients' premises a basic set of personal protective equipment.

10.10.4 All employees who perform work on the premises of external parties have received sound instruction on health and safety.

Ensure as an organisation that employees have received basic instruction on what dangers they may encounter and what they are expected to do in order to work safely and healthily.

The level of such instruction depends, of course, on the nature of the work and the surroundings in which work is performed. Repeat this instruction periodically, for example once a year, so that employees remain alert and can also state at these instruction meetings what awkward situations they encounter.

Measure 1

Give all employees health and safety instruction on site.